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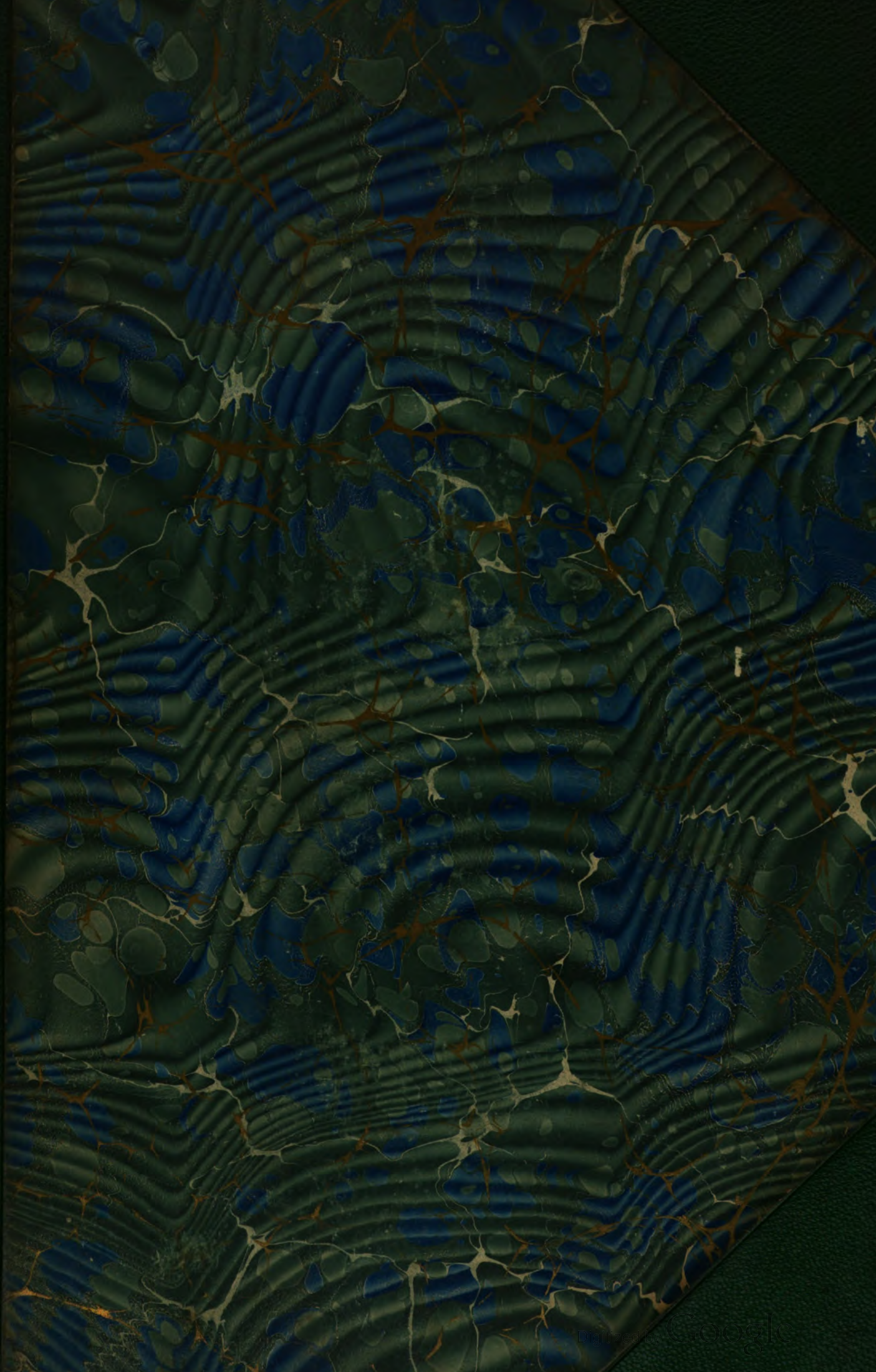
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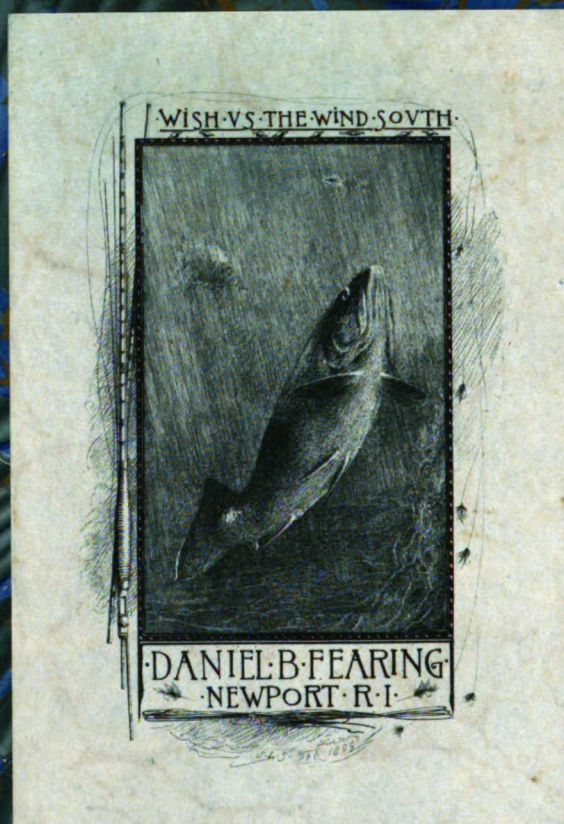
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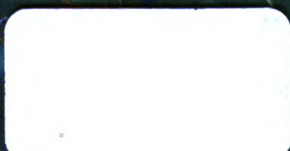


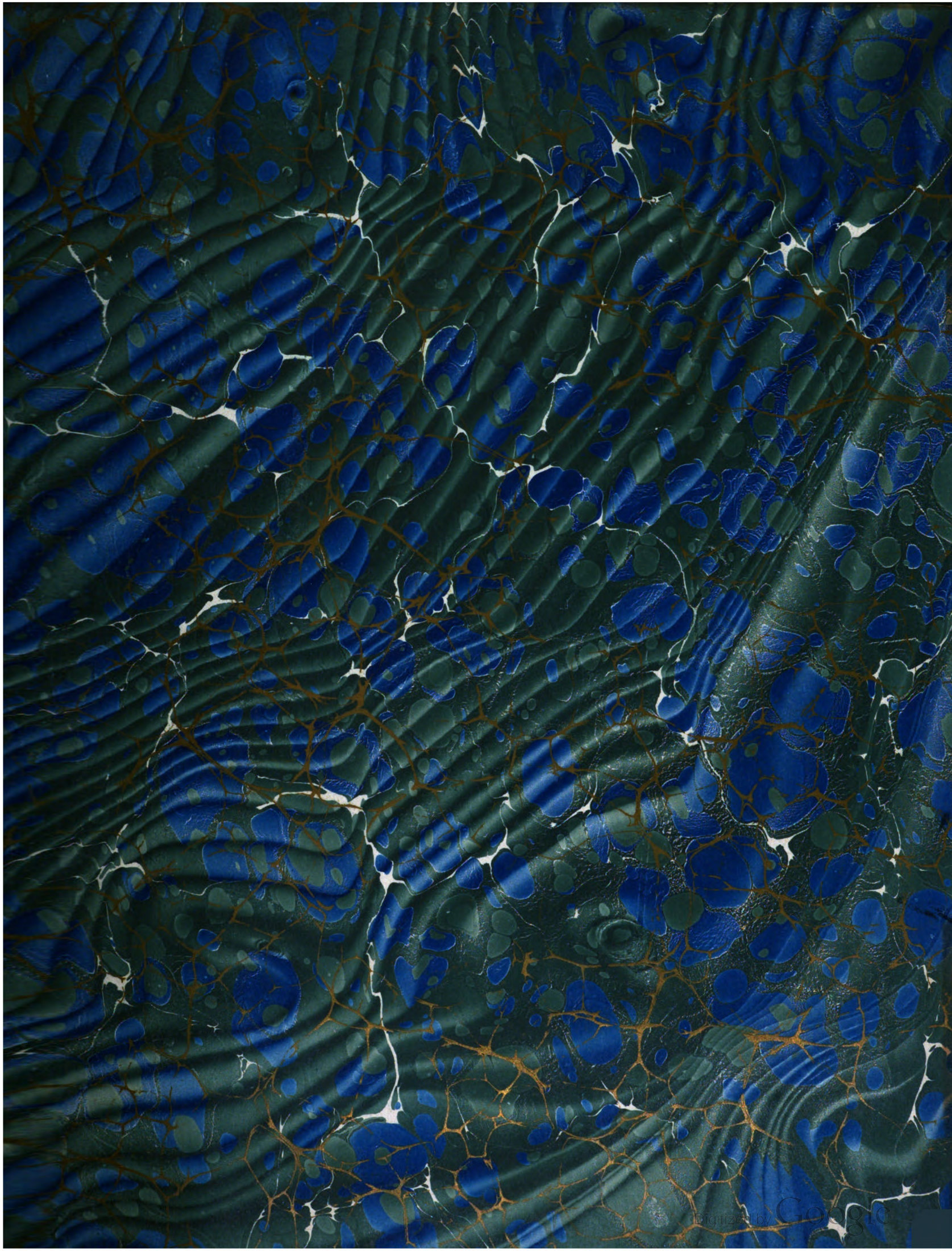
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THE AMERICAN ANGLER,

A WEEKLY JOURNAL

OF

Angling—Brook, River, Lake and Sea—Fish Culture.

WILLIAM C. HARRIS, Editor.

VOLUME XII.

PUBLISHED BY

The Anglers' Publishing Company

252 BROADWAY, NEW YORK.

THE AMERICAN ANGLER.

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DANIEL B. FEARING
30 JUNE 1915

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The American Angler.

A Weekly Journal of Fish, Fishing & Fish Culture.

THREE DOLLARS A YEAR.
SINGLE COPIES, TEN CENTS.

NEW YORK—CHICAGO, JULY 2, 1887.

VOLUME XII, NUMBER 1.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by THE INTERNATIONAL NEWS COMPANY,

11 Bouverie St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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A TROUT THAT BREAKS THE RECORD.

We hear from an authentic source that a trout (simon pure *Salvelinus fontinalis*) weighing eleven and three-quarter pounds has been taken from the Rangeley Lakes by a guest of the "Oquassa Camp." No details as to method of capture or circumstances attending it have reached us, but as it floods the "record" by some ounces we shall try to get at something more definite. Meantime our readers may amuse themselves guessing at the probable age of this hypothetical monster. How many ounces go to the year after his troutship has celebrated his first centennial, accepting as true the late Professor Agassiz's theory that the big Rangeley trout may be two hundred years old or more?

WONDERS OF THE DEEP.

It would be interesting to know exactly what brand of mental stimulant or nerve food Col. C. E. Hillman, of Nashville, provides for the entertainment of reporters who interview him. It appears that the Colonel, who is now in his sixty-seventh year, has been "a thrower of the line and a scientific angler" for years, and that he "follows this richest of all sport" as enthusiastically as he did "in the romp of his boyhood." He has also recently received from Florida a Pandora's box of wonders, which the reporter of the *American* describes at considerable length, and, incidentally, as follows:

Another of the curiosities which followed Mr. Hillman on the return from Florida was an immense shark's head. This, in life, dangerous end of the shark's anatomy, proved to be 12 ft. and 6 in. across, and was the property of the most dangerous species of the "man eater" family. In the head, which is in a good state of preservation, are, seemingly, 1,000 teeth, which surround the interior of the mouth, and are six deep. There was another shark head, similar to the above, which measured 10 ft. 2 in. in width.

We have every confidence in the Colonel's prowess and place great reliance upon the accuracy of Nashville reporters (ex-nerve-food), but nevertheless a shark's head measuring "12 ft. and 6 in. across" and having "1,000 teeth which are six deep" very closely resembles one of those "creatures of delirium seen in fevered dreams" of which the poet writes.

In the same journal our old friend, the "Count," bobs up serenely as "an old Italian fisherman named B. O. Pacetti, who is quite a character in that locality, and has been a fisherman for years, and acquired much fame from many exploits with rod and gun."

The reporter also volunteers the rather startling and hitherto undiscovered scientific fact that the "Stingaras (*sic*) can whip anything in the sea, the long tails being pointed with a thousand small darts, each of which is deadly poisonous."

After remarking that one of these "stingara" tails was from a specimen which weighed 500 lbs." he is good enough to remark that this is "about the maximum weight of the fish."

Well, yes, rather.

Then we have the following regarding rods and their use.

Mr. Hillman next showed the head of a 29-lb. sea bass which he had caught himself during his recent visit. The fish was 3 ft. 4 in. in length, and Mr. Hillman in catching him used a light Japanese cane rod, which cost him 50 cents. Mr. Hillman, in telling this, laughingly remarked that it required science rather than heavy rods to catch

fish. He then showed the head of another sea bass, which when caught weighed 35 lbs. This was also caught by Mr. Hillman, who used a 9-oz. cane rod.

The reporter of the *Banner*, another Nashville journal, gives the following less Moxie-fied account of the Colonel's Florida catches:

Mr. Hillman during his trip caught 130 bass, weighing in the aggregate 998 pounds. In one day he took three bass weighing 35, 29 and 9 lbs., respectively, with a light rod and Meeks reel. These bass are a beautiful, gamy fish, and the sport furnished by a tussel with a 35-pounder is worth going hundreds of miles to enjoy.

Mr. Hillman took 363 sheepshead and sailor's choice weighing in the aggregate 1,140 lbs., and six sharks weighing 685 lbs., the largest being six feet long and weighing 175 lbs.; also stingarees weighing 75, 150, 24 and 30 lbs., respectively. These monsters were all taken with rod and reel. The fishing was done in a boat, and in some instances as much as one hour was consumed in following and playing the fish.

Mrs. Hillman fished, too, and caught 383 sheepshead and sailor's choice, weighing together 599 lbs.; three bass, the largest weighing 22 lbs; two sea trout, 18 lbs., and one shark, 3½ ft. long, and weighing 20 lbs.

A LAW-MAKER AND LAW-BREAKER.

An ex-State Senator of Connecticut delights in fishing the trout brooks of New Haven County, Conn. He does this in and out of season, and without regard to size, a 1½-in. trout being one of his ambitions. This man should be arrested and have enforced upon him the laws which he has helped to make. He is an honorary member of the Game and Fish Club of his town, of which every other member should be ashamed.

BETTER THAN FICTION.

It may be remembered by a few readers of THE ANGLER that some months ago I wrote for its columns two articles entitled "Stranger than Fiction," hoping thus to shame into reticence the ordinary fish liar of commerce. It is with a sentiment of profound regret that I now discover that I have thus only succeeded in stimulating unquestionable truth-tellers to unwonted feats of veracity. Permit me to quote, as an instance, the following from the *New York Mail and Express*.

BEN BENT.

A DIAMOND FROM THE DEPTHS.

Giles Busby, a Toledo fishmonger, was cleaning whitefish last Monday, and in the larger intestines found a diamond ring. It had engraved upon the inner surface, "J. A. B., Chicago, '69." Busby forwarded the ring to the Chief of Police of this city. Yesterday Mrs. Julia A. Lennox identified and recovered the ring.

In 1869 she, then Miss Bennett, became engaged to marry Mr. Lennox. He gave her the ring, for which he had paid \$450, upon their bridal trip in 1871. Mrs. Lennox lost the ring while washing her hands in the toilet-room of a Pullman car. The ring slipped from her finger and dropped through the waste-pipe as the train happened to be crossing a bridge over the St. Lawrence River near Montreal. There are no whitefish in the St. Lawrence. The theory is that a small fish seized upon the ring and that at some later time this small fish, while cruising about in the lakes, fell a prey to the whitefish in which the long-lost ring was discovered. The Toledo fishmonger received from Mr. Lennox a check for \$100 as a reward for his honesty.

THE LEVISON-PRICHARD WRANGLE.

Though probably very few anglers ever saw the article alluded to in the following correspondence, it seems to us but fair to all parties that these letters should have a much wider publicity than their writer originally intended, though comment upon the subject matter in our columns would be out of place:

NEW YORK, June 23, 1887.

EDITOR OF THE AMERICAN ANGLER:—Enclosed you find a communication from me to the editor of *Forest and Stream*, which for some unknown cause that journal failed to publish in their issue of last week.

HARRY PRICHARD.

EDITOR FOREST AND STREAM:—In the *Forest and Stream* of June 9th you have taken the liberty of referring to me in an article assailing my friend Mr. C. G. Levison, and in justice to him, as well as myself, I wish to say that the statement in reference to the salmon casting contest for short rods, that Mr. "Levison agreed" (to loan me his rod) "but stipulated that Prichard should give him any prize that he might win, and, as Prichard won first prize, a handsome grilse rod, Mr. Levison claimed and took it," is a decided misstatement of the facts. On the contrary, Mr. Levison made no stipulation whatsoever, nor did he refuse me the rod, but offered to loan it to me before the tournament. I took no rod of my own, because it was understood that I was to use his, and I believe he loaned it to every other contestant in that class. I knew I would beat Mr. Levison, and thinking it hardly fair to use his rod under the circumstances I offered to exchange prizes with him; but as for his taking the rod I won, even after my offer, he would not do it, but kindly got it the following day on my order for me and delivered it to me. He took the third prize, which he won. I cannot perceive how Mr. Levison's views of the tournament contests can be deduced from the consideration of such an incident, even if it were true, but think his views are perhaps fairly suggested by the devoted assiduity with which he labored to make the tournament a success.

Hoping the above correction is sufficient to right the wrong which has been done Mr. Levison, and that you will give this as prominent a place in your paper as you did the article referred to, I am

Yours truly,

HARRY PRICHARD.

New York, June 20.

A BASS FISHER'S SONG.

The daylight approaches; oh, come with me, come!
In wet woods the partridge is beating his drum,
White wreathings of vapor ascending from where
The lake like a mirror lies placid and fair.

Away with all sorrow,

A truce with all care;

Rise up and follow the sun while I feel
The thrill of the rod and the pulse of the reel!

The scent of the clover is deep on the breeze,
The sunlight is red in the tops of the trees;
The young day awakens, a blush of surprise
On her face and the tears of dew in her eyes.
Come out on the mountain side, over the crest,
To the lake where a boat like a steed in unrest,
Lies rocking and chafing as though it could feel
The life of the morning from bow unto keel.

The sun is arising; oh, come, come away!
Where the cedars are heavy and waters are gray!
The scream of a fish hawk sounds faintly from where
The lilies are raising gold cups to the air.

Away with all sorrow,

A truce with all care.

With hand net and basket, oh, follow and feel
The thrill of the rod and the pulse of the reel.

—Chicago Tribune.

Before selecting your outfit of angling goods read the advertisements in THE AMERICAN ANGLER.

ENGLISH NOTES ON FISHING AND FISH CULTURE.

BY W. AUGUST CARTER,

(Of the National Fish Culture Association, South Kensington, London.)

SPAWNING, HATCHING AND REARING FISH.

The fish hatching season has extended over an unusually protracted period in England this year, owing to the severity of the past winter. At many of the fish culture establishments some of the fry (trout and salmon) did not lose their sac until June 10th. The *Fontinalis*, which spawns earlier in this country than other species of Salmonidæ, obtained an unusual start of their British cousins this year on account of the mildness of the autumn, which hastened their reproductive operations to such an extent that they actually shed their ova by the middle of October. Immediately after that period severe weather set in and dissipated the budding hopes of an early breeding season. The unfavorable meteorological conditions, too, proved a great deterrent to the pisciculturist when the work of collecting the ova commenced and doubtless he will not easily banish from his memory the long sufferings of the spawning season of 1886-7. I hear from all parts that the results have been singularly satisfactory, the fry being strong and vigorous and in many cases free from all disease. Unlike pisciculturists in America we do not turn all the fry into open waters, but retain a large proportion in ponds, where we not only have the satisfaction of seeing them grow to yearlings, two-year-old and older fish, but reap greater pecuniary profit by the transaction. Riparian owners, conservancy boards and piscatorial bodies generally prefer yearling fish and the demand for them is so great that it can never be fully met, the supply being limited. The pisciculturist who nurses, as it were, his fish from babyhood naturally encounters considerable risk and can never hope to rear more than a certain number of the fry which he places in his ponds. Of course it is easily understood that after a few months' time the larger fish prey upon the smaller and who knows but what each yearling has swelled its bulk with the assistance of many a dwarfish congener? This must be so, especially in a limited area where the fish, at the end of six months, begin to feel their strength and an o'ermastering inclination to gorge upon the finny banquet spread around it. All this of course militates against very large returns being derived from a yearling pond, still a system whereby yearlings and older fish may be secured is a very useful one; besides at a fish culture establishment most of the fish should be bred from stockfish, if possible, and it is therefore essential to retain a certain proportion of the fry brought into existence for future breeding purposes. The great utility and economy of fish culture is forcibly illustrated at English fish breeding establishments where fish are made to increase and multiply year by year through semi-artificial methods, each fish thus raised yielding its fruit in due season. One thing that must be apparent to every one cognizant of the arrangements of a fish farm is the absolute absence of waste that exists. The never-ceasing watchfulness too that accompanies the life of the unconscious fish at a fish culture establishment, the readiness to shield them from all dangers and the anxiety that exists to satisfy their keen appetites are other features that must strike every one.

"GAME PROTECTOR WANTED."

Under the above caption and over the signature "Ithaca," in the last issue of THE ANGLER, a correspondent justly bewails the daily use of seines and the practice of spearing in Lake Cayuga, and demands the immediate services of the local game protector to stop this unlawful destruction. A Utica correspondent in a private letter commenting thereon, asks: "But what kind of sportsmen of 'Ithaca and vicinity' are they who have not heard of Game Protector George M. Schwartz, of Rochester, who has for several years been making it warm in every direction for fish and game pirates? The sportsmen of 'Ithaca and vicinity' should organize a Protective Association and work as we do, and they will soon be able to limit the operations of netters, etc., 'on both sides of the south end of Cayuga Lake.'" Our correspondent has also shown his zeal and promptness by writing to Mr. Schwartz calling his attention to the facts as stated, and has sent us some printed matter which we shall take pleasure in forwarding to "Ithaca."

ANSWERS TO CORRESPONDENTS.

NO NOTICE TAKEN OF ANONYMOUS CORRESPONDENCE.

[This department will be a permanent one, and is at the service of all who desire information on angling and cognate subjects.]

FISHERMAN.—"I want to go to old Barnegat City to spend two weeks with my family, in hope of having some good fishing, and, not feeling able to pay these large hotel bills, can you recommend me to some farm house where I could get good plain board say at \$5 or \$6 a week, as I understand there is fine fishing off the lighthouse. That is the reason I want to go to old Barnegat City, and will look in THE ANGLER of this week for the enclosed information."

If you will write to Mr. H. N. Gilson, G. P. A. Tuckerton R. R., at Tuckerton, N. J., you will probably get the information you want.

A. G. S., New York.—"What is the best bait at this time of year for black bass and pickerel trolling and still fishing in Lake Hopatcong."

We have had excellent success in large bodies of water trolling with a gang of large gaudy flies (4 to 6), although still fishing with live bait (of which there is plenty in Lake Hopatcong) is the accepted method at this season of the year.

"O. G. M.," Meriden, Conn.—"Will you inform me through correspondence column of THE ANGLER whether it is necessary to pay for a license in order to fish in Lake Megantic, Canada."

D. S. McFee, Superintendent International Railway, informs us that it is not necessary to have a license to fish in Lake Megantic. The fishing there is free.

"GAME CONSTABLE," Downsville, N. Y.—Will mail you copy of THE ANGLER containing text of the six-inch trout law when published as you request. There has been some delay in obtaining same from Albany. The amendment has certainly become a law.

"A SUBSCRIBER," and "B. B. L.," New York City.—In answer to your inquiries we may say we feel confident the small-mouthed black bass "predominate" in Lake Erie in the vicinity of Pelee and Kelly Islands, Put-in Bay, etc., but having never fished these waters do not like to "settle a controversy" without fuller information. Cannot some of our readers give us more light?

"H.," New York City.—Dressing of Cheney fly is as nearly as possible following: Tag, silver; tail, a fibre of woodcock and one of green parrot; body, posterior half lemon yellow silk wound with round silver tinsel, anterior half maroon chenille; hackle yellow; wings whole feather of duck, which shades from gray at head to white in middle and terminates with black tip; head green silk.

EXPERIENCES OF ONE FROM MONTREAL.

Lovers of the rod in large cities sometimes get agreeable revelations of sporting Elysiums much closer to their homes than they had ever thought possible and while under the spell of one I propose to put down a few impressions.

Had any one told me a week ago that a real live bear could be seen perambulating the scrubby shores of a trout lake within sixty miles of Montreal, I should have thought gravely of the reputation accorded fish historians generally. The fact, however, remains and I had to believe the evidence of my senses. (No, stranger! I had not been taking anything to disagree with me the night before!)

But this is not a bear story. Two of us, probably as ardent schoolboys as ever wet a line, on the shady side of thirty, went roving last Thursday. The Canadian Pacific took us thirty-five miles from our doors and we were prepared to enjoy the refreshing buckboard drive which awaited us in the cool evening. We had ten miles for our first stage, where we took supper and slept at a clean little French hotel for the night.

By four we were stirring again and off betimes in the fresh morning air, brushing the heavy diamond dew on the roadsides and occasionally sampling the rich creamy milk at farmhouses by the way.

About 10 o'clock we reached the quarters where our trout guides resided and soon had a sample of our prospective prey, whilst a fresh buckboard was being got ready to take us on to our first lake.

Our host, Monsieur Pagé, was a hardy veteran French Canadian trapper and hunter of the old school and an original of the first water. He had picked up some English in the lumbering shanties, but the way he massacred the Queen's English was a caution. His son, a hardy backwoodsman, also accompanied us.

The lake was about five miles off. On the road, which was just passable, we came across a habitant who had "been pass for Mo'real" to dispose of his fish and had done so to such good advantage apparently that he was overcome with the effects of part of the proceeds. He had fallen asleep on the top of his wagon in the middle of the woods. The blazing sun was pouring down on him and as he had no "fly medicine" the mosquitoes and blackflies were having a grand barbecue *à la habitant*. He would have an argument with his looking glass next day.

In a short time we reached the shanty by the lakeside roofed with birch bark, and at once got our supplies hurled off in a mad haste to get our rods prepared for action. The glittering waters through the trees were sufficient incentive and no time was lost. "Fly medicine" was plentifully applied, for the insects were in full force. Greasy and grinning at each other like "blawsted stokers" three of us hurried into a leaky, square boat and were paddling on the *qui vive*. A bite and a miss were soon recorded, then whirr! the old music came back to our ears and a fine speckled beauty began to break away for liberty, but was soon persuaded to become a fellow passenger accompanied by old Pagé's jubulations "*Bon pour le Doc!*" Twenty-seven times repeat; then a haloo from the shanty called us to dinner, which we heartily enjoyed despite the "plenty moakeeto." A second boat had meanwhile been brought up and we started to see what the afternoon and

sunset would bring, each boat taking a different course with a determination to eclipse the other. There was no lack of trout but "Monsieur Chat" was decided the victor. Whilst fishing the interim was filled in by conversations with the boatmen on deer, beaver and bear killing—of intense interest when heard direct from those who depend greatly on the flesh of these animals and the sale of their furs for a living in winter, for in summer the rocky, hilly surroundings are hard to cultivate to much advantage.

After the sun had set, what with our early start, long drive and cramped seats in boats and buckboards, we were glad to make for the cabin just as darkness set in with about thirty pounds of trout as the fruit of our labors. A good fire was started, and we were soon stretched on the grass taking a most grateful siesta, awaiting supper. "We lay like a warrior taking his rest" till the trout were cooked, and the balance placed in a cool, shady spring hole. We had forgotten candles, but "Arcture" sliced a piece of pork and pushed a stick through its center, which gave us a good comfortable light, otherwise our supper would have been rather dreary. After a good smoke, hammocks were swung and preparations made for the night. A hammock ring slipped out of the ceiling, and one of us landed on the edge of a fish can, narrowly missing serious hurt.

At the first faintest dawn of light the flies came out "with full-voiced choir resounding." Even the tough old Pagé had to respond and placed a smudge of straw on the top of the stone, which produced a general exodus of both men and flies.

As we were going to make a long bush portage to another lake we decided to remain up. What an enrapturing morning it was! Nothing could be heard but the tunk of the "hammer frog," the whirr of the woodpeckers rapping on hollow wood, and weird piping of numerous warblers. It was a picture to see the primitive looking boats, old enough to belong to Jacques Cartier's time being paddled noiselessly along the mirror-like surface. Birds flew over our heads and were reflected away deep down in the sunny depths, clapping their wings spasmodically, as if hugging their showy bodies for rapturous gladness and so much ethereality. A little way off we were shown an old beaver dam, the only outlet, by which the industrious creatures had once raised the waters of the lake about six feet! No loons were visible and very few kingfishers. This is partly the reason that trout are so abundant in most of these lakes.

A rough portage through the bush, where we were pointed out lots of caribou and deer tracks, brought us to the expected trout Eldorado. It was on the opposite shore of this lake that we saw the bear, about 600 yards distant. There was only a heavy raft on the lake, and it was impossible for us to attempt getting up to him. Our men were very much excited at the sight, as they saw \$15 in him if they could get him. He was of a specially large size, and they thought would weigh 300 or 400 lbs. "*Mon dieu! c'est bien gros!*" "*Bien gros ça!*"

A small stream ran into the lake at the place where he was running about catching frogs, the men told us. They borrowed our "leedle gun" (revolver) and started off to try and catch him, but it was hardly possible for them to get through the fallen timber. The marvel is how any animal gets round at all in it.

The place certainly did not seem like one that should be fished out, and we speedily got our raft into about fifteen feet of water. Within three minutes from the time it was moored we were having all we could do with the gamiest red trout it had ever been our fortune to tackle. How dear to an angler's heart they looked when reined close up! A full foot long of golden pink spangle darting hither and thither in the sunlight, like an ingot with scarlet ribbon attachments—tacking and filling, circling and darting most wickedly—sometimes followed by others who were a sure catch if only one of our lines happened to be ready to cast near. A slight ripple on the water aided our catch, but the sky was cloudless. All the fish were of the red species, and we were never tired of admiring them as they emerged into the sunlight from their dark haunts below. The sunset fishing would have been glorious, but we had unwillingly to tear ourselves away in time to track our way back through the bush whilst light lasted. We had over 80 lbs. of dressed trout to the two rods, to care for, running from a foot long upwards. Several weighed slightly over a pound and the largest twenty-five ounces. Will we ever have such fishing again?

The skill of a backwoodsman was a matter of admiration to us and showed us how little fertility of genius we possessed when taken away from the vicinity of shops. Tracking through an almost impenetrable bush was in itself amazing. The speed with which he cut down trees for our raft and bound them together with bark strips or withes was marvellous; so also were the birch bark buckets which he extemporized to carry home our load of fish.

True we had hard shakings up in our long drive, hard walking through the bush with attendant pests in disgusting myriads, but our only recollections now are for the golden prizes—the surrounding scenery, strange flora and general rejuvenated feelings which have resulted from our short trip.

There are lakes enough in the district to furnish pleasant experiences for all who care to go. Their names are legion, and many will be stumbled across that are not shown in Rand & McNally. Within a short distance of our camp there were lakes Desire, Brisson, St. Patrick, Des Isles, Massou, Lac Querrow, Caisson, Moose, Katrine, Blanc, etc. Who wouldn't go a-fishing? R. S.

FISHING IN THE NORTHERN LAKES.

Good catches of trout, both speckled and lake, have been made in the waters of our northern lakes this season. The open season for black bass and mascaulonge began on the 15th inst. The close season was suspended for one day May 24th, which was a mistake, as a large number of ill-conditioned bass were taken and their fry left without protection to become food for perch and other fish.

Some large catches of trout, we understand, have been made in the Mastigouche lakes and friend Copeland's genial phiz beams a royal welcome to every "lover of the rod" who visits him. There are fresh waters in his lakes for any number of rods.

PARKER.

Montreal, June, 1887.

FISHING TRIP TO LAKE HOPATCONG.

Friday, June 10th, Mr. F. Knowland, general agent of the Union and Central Pacific R. R., and I, started on the afternoon train for Lake Hopatcong. We telegraphed to Nolan's Point, where Mr. Knowland has his boat kept, to engage a guide, boat and bait, to be at the Hotel Breslin dock at 4 o'clock the following morning. Saturday at 4 A. M. the thermometer at Hotel Breslin registered, I think, 48°, and the weather felt as cold as midwinter; nevertheless we were at the dock on time, but as might be expected there was no indication of a guide within sight, so we appropriated a boat and spent two hours within view of the dock, hoping our guide would make his appearance with our own boat, which he did about 6.35, when we thought we would go in to breakfast, and then make a fair start for all day. We concluded, however, there was no use expecting any guide to take us out at the hour of the morning we wanted to go, if he had to row from Nolan's Point to Hotel Breslin, so after breakfast we put our "duffle" in the boat and bade adieu to the hotel. The wind was blowing a gale from the northeast, but by keeping near shore we managed to get across the lake. On the way we caught with the fly four or five small bass. Although we had one line from the stern trolling a "lake herring," we failed to catch anything on it, but had more than one "strike." The water appeared to me to be very roily, probably from the late rains, which may explain why with us bait fishing was a failure.

Arriving at Nolan's Point we left our "duffle" there, then started up the lake, the wind still blowing a gale.

We tried trolling the bait, but it failed; then tried casting it from the reel, which was better, but the fly was still better than either, as we took on the Grizzly King and Black Prince a few small fish, and then returned to dinner. On account of the strong wind our guide was done up, so after dinner his father took his place, and he proved to be all that we could wish. Our experience of the morning caused us to abandon all but the fly, and the result was that as the wind moderated we enjoyed the balance of the day and evening immensely, taking nine fair-sized fish, the two flies mentioned holding their own against several others that we tried.

The following morning we did not start out as early and in consequence lost the best of the day, but as we were fishing for pleasure and not fish it made no difference. On the lake we met by appointment Mr. Geo. L. Bryant, the Superintendent of the High Bridge Branch of the New Jersey Central Railroad, and he informed us that we were all invited by Mr. Frank Drake, of Easton, Pa., to dine with him at his cottage and that a steamboat he had chartered for that day would be sent for us in time for dinner. About 12 M. we heard the whistle of the steamer and drawing alongside were soon aboard and welcomed by Mr. Drake and about a dozen gentlemen he was entertaining. Leaving our guides to follow with the rowboat, the steamer started. All enjoyed the sail to the cottage, and, landing, Mr. Drake showed us his house, which as yet is not quite completed, and the grounds, also the well, which is quite remarkable, being only about eight feet deep and has now in it four feet of water the surface of which is at least eight or ten feet above the level of the lake, the well being only about seventy-five feet from its shore.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper, Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

After viewing all of interest in and about the cottage one of the gentleman, aided by a huge triangle, announced the dinner, which was served in a dining room large enough to comfortably seat the entire company.

You may be sure it was a success and enjoyed by all. The *ménu* was various and the wines excellent, and the way the broiled chickens disappeared was a caution to their mothers had they been there, but I think they were all left for the hotels. It is simply impossible for me to undertake here to repeat the many witty stories and jokes told, and can only say that for fully an hour there was continual laughter.

After dinner we were cordially invited to join the party for a sail on the lake, but, as Mr. Bryant intended leaving on the train that afternoon, Mr. K. and I declined, and, thanking our host for the kindness and generous courtesy shown us, we parted, the steamer going one way with Mr. Drake and party on board, and Mr. Bryant in one boat and Mr. K. and I in another, going to fish in an opposite direction.

The two row-boats kept near together and occasionally, but not frequently, a black bass was landed in one or the other.

We had the boatman row in one of the many coves and when well in we heard a splash behind an old stump, and, supposing it a bass, I hurriedly put a frog (one of six we had caught in the morning) on my minnow rod and, casting it near where the sound came from, it was instantly taken by a fish, which proved to be a large-mouth bass of about three pounds, the largest we had taken. While playing the bass the boat drifted near where it was hooked and looking in the water I noticed a large school of young black bass about three-eighths of an inch in length and to all appearances some thousands in number.

Supposing the fish I had that moment taken in the net, but had not unhooked, was the mother of the brood, I carefully took out the hook, luckily without injury to the bass, and tenderly laid it again in the water, when it suddenly disappeared, the brood directly following in the same direction, although until then it had not moved. From this incident an opinion, I think, may fairly be formed, as to the proper time to open the close season in both Hopateong and Greenwood lakes. We returned to Nolan's Point at 7.30 P. M., and came home on the early train Monday morning with about a dozen fair-sized fish, and so ended one of the most enjoyable trips for black bass I have ever taken.

Brooklyn, N. Y., June 15.

C. G. LEVISON.

Rod Leases on Green River, N. B.—The subscriber will lease for \$50 a rod for the season (not to exceed eight rods at any one time) the right to fish in thirty-three miles of Green River, New Brunswick. This river, navigable for canoes to its source, is as remarkable for the purity and coldness of its waters as for the romantic beauty of its forests and scenery, and is one of the best trout rivers in Eastern America. There is direct railway communication with its mouth. Guides with canoes will be furnished for \$1.50 per day each. Railway time tables, etc., on application. EDWARD JACK, Fredericton, New Brunswick, Canada.

Mr. Jack, who is a Canadian land surveyor, is well known to me and full reliance can be placed on him. J. HENRY PRAIR, Fishery Commissioner for New Brunswick.

The Angler's Score Book.—Contains blank forms (with stubs) for registry of fish caught; their species, size, weight, baits used, waters fished in, with conditions of wind, water and weather. Pocket size, paper cover, 10c.; in limp cloth, 25c. Address THE AMERICAN ANGLER, New York.

THE ADIRONDACK PRESERVE ASSOCIATION.

NEW YORK, May 31st, 1887—7.30 P. M.—I am thus precise in my date, as it calls to mind that just one week ago at this time I reached the club house of the Adirondack Preserve Association, situated in Essex County, this State, seventeen miles from North Creek, accessible via the Adirondack Railway car from Saratoga, thence by buckboard over ten miles of an excellent road known as the Long Lake Trail until we strike the forest and come down to business over a more primitive road called Bibby's Buckboard Road, or wood road, which is guaranteed to cure the worst case of dyspepsia.

To describe the reception given us on our arrival at the club house by the members that had preceded us, including Vice-President Adams and Treasurer Sheibler, will take more of your valuable time than I dare presume upon, but it was hearty! as was the supper of Loon Pond trout that awaited us, and to which ample justice was done.

The next day (Wednesday) was spent in inspecting the numerous spots of interest with our "official photographer" in the party, to preserve some of the views for our album, which it is proposed to keep on exhibition at the office of the association in this city.

Among the points of interest is Prospect Rock, about 300 feet from the club house, where many noted and majestic peaks can be seen, besides the North and Indian rivers. Upon this outlook a large summer house will be built, where members of the club and their families can lay off in hammocks and easy chairs with their books or field glasses and while away the afternoon in this pine-scented atmosphere.

There are eight large ponds or lakes within a distance of four miles, all of which are well stocked with brook trout and from one of which the writer with a friend took on Saturday last, May 28th, eleven trout weighing, after we reached the club house at night, twenty-two and a half pounds. The smallest weighed three-quarters and the largest two and three-quarters pounds, for the quality of which I can refer you to our worthy president, who with others had an opportunity to sample them, they having reached here in good shape, having been well packed in moss and ice.

The club house of the association is situated in a clearing of about 150 acres that has been farmed for a number of years and affords abundance of pasture and hay for the eight head of cattle owned by them. This provides plenty of milk and butter from their own creamery, which is under the supervision of Mr. Bibby, besides a large garden from which such vegetables as can be raised in that section are growing.

The boats, boat houses at different ponds, trails, fish hatching and sporting is under the general supervision of Mr. Bucklin, an experienced woodman (who furnishes guides when wanted), but when a member has once been over the trails he can go alone, they are so well defined.

With a commodious club house 30x40 and three stories high, with adjoining buildings for kitchen and quarters for employes, and three barns for horses and cattle, situated in the midst of as good trouting and shooting as can be found in the Adirondacks; the management in the hands of a competent committee will insure a table well supplied, satisfactorily cooked and served; during the summer months it is intended to have first-class cooks from this city—don't it seem as if one might pass a vacation pleasantly?

From the manner in which the applications for membership are coming in I have no doubt but that the limit will soon be reached and any that are fortunate enough to secure a certificate of membership now are entitled to an absolute ownership in the property of the association, whose title is perfect, having been fully investigated by Counselor Ingraham, of Brooklyn, duly recorded and in proper shape.

JERMS.

Notes and Queries.

RELIABLE RECORD FROM ST. ALBANS BAY.

Am at work here for what I can get, but just now the water is too high. The fly casting is just about commencing. I should judge perhaps will be in full blast a little later.

I have entire swing here, except casual St. Albans people, and have had some good success fly casting—best one and three-quarter pounds—but there is so much rain and strong winds that it isn't a "fair deal" to judge what might be done in good weather.

I caught the black bass surface trolling with flies. "No standee up in boat." My day's catch consisted of half a dozen nice bass, heaviest one and three-quarters to two pounds; three wall-eyed pike, best three pounds; perch, goggle-eyes (one chub, two pounds) and one eel. I didn't get the eel. My guide had all the fun there was in that. I had never seen the wall-eyed pike before and now that I have seen him, his actions and the "bottom feeding" I prefer bass all the time.

The following day was fine and remained so until noon. We took the same grounds as yesterday and got a few bass and one rock pike. The rock pike is related closely to the wall-eye and is a clean, well-shaped fish with a handsome dorsal fin, twelve spines, touched up with dots and dashes of color. They are said to be scarce here and two in a day's catch rarely made. This was a sample for me. He is rather pretty, but give me bass. These pike are too tired. Caught more showers than fish. A few bass, balance perch, pickerel, goggle-eyes and the rock pike.

It's blowing hard now and promises more wet by tomorrow. Shall try the morning fishing and then for home in the evening. The lake is just about getting ready to bloom and that means, you know, poor fishing.

LATER.—After a good blow it settled down to a fine fishing morning. A gentleman and wife from Newark, N. J., have arrived to look over the place and try the fishing. Returning home about 1 P. M. I find I have one wall-eyed pike, three and three-quarters pounds (he struck wickedly on a trolling live minnow); one perch, on a fly; two more wall-eyed pike and one pickerel. The other boat secured, I learned, two or three bass. I believe in ten days or two weeks there will be some good fishing.

P. S.—It is the prettiest ground for *miles* I ever saw or fished over. No stumps, brush or even dirt, but gravel and small stony bottoms. Mr. Samson's cottage is as bright, clean and attractive as can be, excellently kept, good beds, attentive services.

BLACK BASS.

St. Albans, Vt., June 23.

MORE THAN THEY COULD POSSIBLY USE.

Hon. John Y. Woods and H. S. Brunot returned from a trouting expedition in the Alleghanies a few days ago, bringing seven hundred and seventy-five native mountain trout as the result of six days' work. Wind and rain every day; water high and cold. Largest fish 13 in., taken with a fly.

H. S. B.

Greensburg, Pa.,

WHEN AND WHY FISH DON'T BITE.

I was much interested in Mr. Stranahan's article in *THE ANGLER* of June 4th—"Do Barometric Conditions Affect Fish?"—and found that his suggestions were in line with personal experience, at least in a measure with my own. And for like reasons and in a similar manner I was attracted by the article of "Minnesota" in your issue of June 18th, in which he refers to barometric conditions and electric disturbances.

Myself and angling companions have more than once noticed that fish would not bite (at least to any extent) at times, and these "times" were generally, if not always, when the barometer was low.

Our experience in reference to the "thunder and lightning storms" has been of a still more decided nature. We are pretty well convinced that the number of fish taken during a period of electrical storms—that is, immediately before and for some time after a shower, which is accompanied by severe thunder and lightning—will be small indeed, as a rule. Or, during any number of days and nights, when such disturbances on the part of the elements occur every few hours, even though the sun may come out bright and hot "between showers."

I might mention a number of instances, but will confine myself to one or two. With a friend I paid a visit last summer to a lake which seemed to be full of bass. It had been stocked for four or five years, and was evidently ripe. We took twenty-three fine fish (wind in the north) and set the lake down as a good one. Feeling so well toward it we paid it another visit and took out eighteen, all fine ones, one of them weighing 3 lbs. 14 ounces. By this time we were singing the praises of the lake everywhere. Thus on fire, so to speak, we embraced the first opportunity to "tackle" it again. Arriving just at night, we arranged to spend the night at a hospitable farm-house, and went to bed to dream of the monsters we were to capture the following day. These dreams were interrupted, however, by tremendous claps of thunder and vivid flashes of lightning, oft repeated. Morning came; we went to fishing and staid by the job faithfully, but without a single bite; no bait was sufficiently tempting. We still doted on that gem of a lake, but disliked the thunder and lightning attachment.

At another time the better part of four days were spent at a place where fish had been caught off and on right along; but during our stay the barometer was low; showers, accompanied by thunder and lightning, occurring each night, and more or less rain every day; wind blowing steadily from the south. Result, a very meager catch indeed.

And other instances of the same kind. And while we are pretty well convinced that neither a low barometer nor an electric storm (singly or together) are favorable conditions for good catches, we are not prepared to say that there may not be exceptions, and hope that *THE ANGLER* and its friends will throw further light upon the subject.

Montrose, Pa., June 26.

W. C. C.

INFORMATION WANTED.—I would be glad to get from some of your readers a description in detail of the dressing of the Dorset fly. "H. P. M.," care *AMERICAN ANGLER*, N. Y.

EEL SPEARING ON LAKE ST. FRANCIS

The expansion being four miles wide spearing is carried on on quite a large scale, and, as gentlemen anglers often take a part in it, I beg to give a description of it to the kind readers of *THE ANGLER*. Annually, for about a month, from the 1st of July, every evening at dusk, some forty or fifty canoes, provided with a triangular reflector lamp or a pine knot fire set in an iron basket placed at the prow of the canoe at the top of a four-foot pole. Two rowers, one pilot and a spearman leave the shore and *make out* for the eel road, which extends from Point aux Foins to Point Mouillé, a distance of six miles.

The eel road is formed of millions of dead eel flies, which float on the water and of which eels are very fond. The eel road occupies the middle of the north channel. A moderate east wind in the course of the day gives at night an eel road which brings smiles of satisfaction on the face of the hardy spearman. The eel road reached, the spearman takes his position at the prow, his twenty-foot spear in hand, and scans the surface of the water, indicating by a movement of his head the direction of the road, to which the pilot responds with alacrity.

Now the excitement begins; an eel has been seen and as quick as lightning the spearman throws his bending spear and draws it back with an equal rapidity, depositing his writhing victim in the canoe. An average night's catch, from 8 P. M. to 1 A. M., is from sixty to ninety eels.

The largest catch ever made here happened in 1873, Alex. McKie being spearman and your correspondent one of the crew. It was a fine moonlight night rather too calm. Eels don't rise to the surface in calm weather. Prospects were very discouraging. However, about 11 o'clock threatening black clouds rose in the western sky and were soon followed by thunder, lightning, wind and rain. Electricity has a powerful stunning effect on eels, for hardly had the storm commenced than thousands of them were floating at the mercy of the waves *like sticks*. Eels in front, eels behind, eels to the right, eels to the left, eels all around; rowing was useless. Two spears were used and in spite of the raging storm 250 were captured.

Eel spearing is always done under the following conditions: The spearman, who is generally the owner of the canoe (30 or 40 ft.), takes two-thirds of the catch, and the other one-third is equally divided among the members of the crew.

No fishing done since two weeks in the Beaudette River. We have had heavy rains and the water is roily.

River Beaudette, June 24.

J. E. J.

TIM POND AND THE SEVEN PONDS, Northern Maine.—Trout fishing and hunting resort. Smith's farmhouse and boarding camps have been thoroughly renovated and new cabins built; grounds and boats improved; all in good order for guests, reliable guides furnished; buckboard teams and good saddle horses; high mountain air; pure spring water; beautiful scenery; no malaria or hay fever; more than 2,000 feet above the sea level. Buy excursion tickets to Smith's Farm. For information, description and terms, address Julian K. Viles, proprietor, Stratton, Maine.

Salt Water Rod Wanted.—Any person having for sale a second hand split bamboo, medium weight, all round salt water rod in good condition can hear of purchaser at office *AMERICAN ANGLER*, 252 Broadway.

NOTES FROM SUNAPEE.

Mr. A. J. Hobbs, of the U. M. C. Co., is here, and is having rare sport this week. He arrived the first of June, at a time when the fish were "off," got lonesome and felt like clearing out and denouncing Sunapee. But one day he hooked and killed a 6-lb. brook trout, and that changed the complexion of his disease materially.

With Powers as companion Mr. Hobbs has had rare luck this week, having basketed six Oquassa brook trout and one land-locked salmon, on Tuesday, Wednesday and Thursday. One of his Oquassa weighed over 4 lbs. He declared it to be the gamiest trout he ever felt until he had hooked his 7-lb. land-locked. This fish, he declared, "took the cake," giving him a full hour's play on his Leonard bait rod, and exhibiting a series of remarkably fine aerial gymnastics. Mr. Hobbs is now a thorough convert, and wants to stay all summer at Ben Davis' "Willows."

The bass are on the shores and are taking the fly to perfection. Powers and I took fifty-two on the 15th June.

The trout keep in about 45° and follow that temperature down; they now lie in about thirty feet of water and take the minnow. You can, however, find them somewhere until August.

J. D. Q.

"Sunapee Lakeside House," June 24.

FISHING AT COLUMBIA RESERVOIR.

In consequence of sickness more than a year ago, and continued impaired health, the writer was prevented from the enjoyment which the rod affords during all of last season, but a little time since he enjoyed a half day upon the above named reservoir. The time was not especially favorable in consequence of a brisk southerly breeze, which interfered with rowing, but a good supply of fair-sized fish (bass) were captured by the trolling hook. Others upon the water engaged in still fishing were not very successful.

There have been no large catches so far as numbers were concerned this season, although some fine fish have been captured. On one occasion a pickerel of 4½ lbs. was the trophy of the fishing effort. It is seldom that more than two or three large fish have been captured at one time, although perch are in abundance. A colored boy, one afternoon, took a 3½-lb. pickerel and a fine string of small bass and perch. Eddie Boughton, a lad of about twelve summers, has been successful in capturing single specimens of bass and pickerel of three pounds weight.

There is a singular peculiarity connected with the bass fishing here, and that is that while the fish appear to be plenty, they are much more shy of the hook than formerly, and a greater degree of skill is required to take the bass than was the case some years ago. They seem to be educated as to the danger of the hook, and while the angler may be fully satisfied that the fish are about his hook, he is also as well satisfied that they are handling it with safety.

We hope to be able to contribute other items of greater interest later in the season.

WM. H. Y.

Columbia, Conn., June, 1887.

For Seaside and Country.—Readers of *THE AMERICAN ANGLER* going out of town for the summer can have the paper mailed to them for twenty-five cents per month, postage free.

LAND-LOCKED SALMON.

On the 16th of June a party of three left Fredericton, New Brunswick, Canada, for Skiff Lake on the Saint Croix, which they reached at 5 o'clock P. M. the same day. While they were making their camping arrangements on one of the thirty islands which are to be found in this lake the same evening they took from the shores three land-locked salmon.

The next morning they went to the outlet of the lake and to the quick waters below, where they fished until 3 o'clock in the afternoon, taking in all thirteen land-locked salmon, as well as some trout. The salmon averaged two pounds each.

The fly chiefly used was the Silver Doctor tied on a small hook by Bailey, of Saint John. Skiff Lake is five miles distant from Canterbury Station on the New Brunswick Railway, is reached by a good highway and is one of the prettiest in the country. It is five or six miles long by about three miles broad in the widest part. One end is occupied by farms; the rest is forest-surrounded. The above information is received through one of the party, Mr. C. W. Beckwith, a well-known fisherman of Fredericton.

E. J.

SOME ST. LAWRENCE SPORT.

Once more I am here, and, as I promised, will try and keep you posted as much as possible. I am stopping at the International Hotel. Mr. A. M. Gamble, the proprietor, always looks out for the welfare of his guests. You have a beautiful view of the St. Lawrence, one of the handsomest rivers to be found. The law is now off and all kinds of fish can be caught. One of our party, Dr. H. L. Whitbeck, of Albany, while fishing with me last Friday, took a thirty-pound masacalonge, our oarsman being William Lasha, of this place. It was the first white flag I have seen this season, it being the second day the law was off. The water was smooth, but there was some wind during the morning from the north. His length was fifty-two inches, and he was taken on a Bullock oreide half-battered spoon, made by Mr. Bullock, of this place, the same with which I took the large ones last fall. The black bass are taking hold very lively, and I have taken some pike weighing upward of nine pounds each. The fishing will grow better from now out, and I advise all who wish rare sport to visit this town. Will write again next week.

GANANOQUE.

Gananoque, Ont., June 20.

[Extract.]

CHICOPEE, FALLS, MASS., May 24, 1887.

U. S. Cartridge Company, Lowell, Mass.—GENTLEMEN:—* * * You did a grand thing when you changed your BB and Conical Caps so they would not injure a rifle. We could never recommend them before, but now do every time.

Very truly yours,

[Signed]

J. STEVENS ARMS AND TOOL CO.,

J. H. PAGE, Secretary.

The Game Fishes of the West.—A practical Angling Treatise fully illustrated. The essays have been written by the most prominent angling authors in America, and this edition is essentially a text book for anglers and lovers of natural history. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

ALBANY FLY-CASTING TOURNAMENT.

Following is a copy of the official score made at the first Fly-Casting Tournament held June 21st, at the Washington Park Lake, Albany, N. Y. The weather was very favorable, there being a strong south wind during the whole day.

The prizes in the first class were awarded as follows:

First.—W. D. Frothingham—Fly-rod, given by A. G. Spalding & Bros.

Second.—P. M. Luffman—Automatic reel.

Third.—Howard Paddock—Bray fly-book.

Fourth.—H. R. Sweny—Bray fly-book.

Fifth.—W. W. Hill—Fifty yards enameled line.

Sixth.—Edward Parkhurst—Fifty yards enameled line.

Seventh.—Fred K. Wood—Two dozen trout flies.

Of these casters Frothingham, Luffman, Paddock, Sweny and Hill used rods made by Spalding. Wood's was made by Leonard and Parkhurst made his own.

The judges were Messrs. Kirk, W. W. Byington, Dr. Bendell, while Dr. Ward was time-keeper.

WALTER D. FROTHINGHAM,

Secretary and Treasurer.

We append the scores in detail:

FIRST CLASS.

Names of Contestants.	Length of Rod in feet and inches.	Weight of Rod...	Distance in feet and inches....	Delicacy	Accuracy	Total
P. M. Luffman.....	11.3	9	71	30	9	100
H. R. Sweny.....	11.3	9½	73	21	8	97
W. D. Frothingham.....	11.6	9	74½	23	8	105½
Fred K. Wood.....	11.3	8½	69	19	8	83
S. G. Spier.....	11.3	9½	61	18	6	85
Edwin Parkhurst.....	11.3	7	63½	22	9	94½
G. A. Brooks.....	11.3	9½	69½	20	4	83½
Dayton Ball.....	11.3	8½	65½	17	4	86
W. G. Paddock.....	11.3	8½	70½	16	6	92½
B. F. Reese.....	11.4	8½	60	21	7	91
W. W. Hill.....	10.7	7½	68	21	10	97
Howard Paddock.....	11.3	9½	71	22	5	96

In the second class Mr. Howard Olcott's score was as follows: 10.7, 7½, 58, 10, 0, 68.

NOTES ON MAINE FISHING.

I hear that black bass are being taken in large numbers from Highland Lake, Maine, by ye small boy, etc., who knows where their spawning beds are, and a friend writes me that it looks as though the goose was sure to be killed, and then no more eggs, and it will take from five to ten years to get back to anything like the present. They forget that an ounce of prevention is worth more than a pound of cure. Waters are like cornfields when crops are expected—have to be looked after. I am in hopes to be on the spot, and will tell you about it next week. Stray salmon are being hooked in Long Lake.

P.

The Anglers' Guide to the Fishing Waters of the United States and Canada—Third Edition.—This book is invaluable to the angler and tourist. It tells how eight thousand fishing waters are reached, the species of fish therein, hotel accommodations and cost, cost of guides, boats, etc., baits used and the best months for fishing. It also contains a summary of the fish laws of the States and Territories and those of the Canadian Provinces. Handsomely bound in cloth. Price \$1.00. Address THE AMERICAN ANGLER, New York.

NOTES ON LOCAL FISHING.

At Buoy No. 8, Raritan Bay, Wednesday, June 22—wind S. W., single reef gale, cloudy and showery—caught six weakfish, $1\frac{1}{2}$ to $2\frac{1}{2}$ lbs., on ebb tide. RAHWAY.

Tried the weakfish at Gravesend Bay Saturday. Got four, average $\frac{1}{2}$ lb., school fish, out by the scows. High water and first of ebb; bait, crab; weather clear; wind N. W. Did not get even a nibble while tide was running flood and although I had two hooks, one with crab and the other shrimp, the latter were not touched.

New York, June 27.

BROOKLYNITE.

On Saturday last I went down with my editorial friend to "Fitz's" hospitable angler's resort on the shores of the Great Kills, S. I., and thoroughly enjoyed my first try at the weakfish. As soon as the tide served in the evening we went in one of the boats there provided less than a mile from "Fitz's" dock (which by the way affords ample accommodations for his fifty odd boats), and by moonlight and starlight, and in full view of a gloriously brilliant sunset, took with crab bait an even dozen of these beautiful and gamy fish with fly-rods and light tackle. There is something very attractive about the sport, and I hope to say more of it later.

BEN BENT.

We made our maiden cast of the season for weakfish yesterday at Gravesend Bay and found that the eight-ounce split bamboo was "all there." We reached the grounds on the last of the ebb tide and fished through slack water until within an hour of high water. Our bait was shrimp, which we consider the best thus early in the season. We did not have a strike until flood had made for about two hours, when we caught on to two school fish. Examination of their paunches showed a diet of sea shrimp exclusively and this was also the case with those taken later.

Our catch was five, while other boats reported catches from 0 to 25. Our experiences have been that this fish feeds best during flood tide and slack water and we seldom fish for them during ebb.

We attributed the scarcity of fish yesterday somewhat to the large school of porpoises which was sporting in the bay while we were on our way to our anchorage.

Wind was noticeable by its entire absence.

CARLETON.

Never having had any weekfishing on Sunday I thawed that we would go down along the ralerode from Mr. S. T. George's landing on Staten Island and try how it would be, having heard so much about the catches in Mr. Prince's bay not a great ways from where Mr. Gifford keeps shut on Sundays and open the rest of the week. At Mr. Fitzgeralds' we see lots of nice fish some fellers cougt the night before and so I and my friend got a boat and slept so late in the next morning we missed the best tide on account of the beer bein' higher than the water, and when we woke up there was no fishin', so we went and lay in the boat and the sun in the boat was so hot that the beer biled and so we don't ketch many fish, but we slep till the nex tide, when they bit better by the moonlight goin' up in the stage, but we had a fustrate time and goin' agane nex' time for fishin'.

COUSAN SCRIBER.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

WORK OF THE SHAD HATCHERY.

On June 18th, Mr. J. Mason, in charge of the shad hatching department of the New York State Fish Commission on the Hudson River, ceased operations.

The total take of spawn was 4,457,000, and the total number of shad turned into the Hudson River was 3,822,000, which is an increase of 1,542,500 over last season. The catch of shad in the Hudson River has been during the present season enormously large, and I doubt if it has ever been exceeded in the history of the "shad catches" of the river. Reports have come to me that more shad have been taken within ten miles of Albany than has been known for twenty years. This has not been due to any lack of energy on the part of the lower river fishermen to capture them all, but simply to the large general increase of shad in the river, which in turn has had its good effect on the proportion that succeeded in fighting their way up to the breeding grounds.

Mr. Mason reports that, on account of the unusually large catch, the dealers were obliged to break their contracts with the fishermen. The general contract price was \$15 per hundred, but when the shad came on so thick the dealers could not handle them all. The price fell to from \$4 to \$6 per hundred for No. 1 roe shad.

This is certainly a great triumph for artificial propagation. It has placed this excellent food fish within the reach of thousands of poor people, who are thus enabled to salt down their barrel or barrels of shad for winter consumption, and will perhaps be the means of keeping the wolf from many a door.

SETH GREEN.

A DAM QUESTION ANSWERED.

Following letter and reply may serve to encourage the construction of artificial ponds:

I would like to have your opinion about my trout pond. I have a large spring of about two acres, which is the source of a small brook overflowed two and a half feet with water and for one mile down this brook, where my dam crosses it and is six and a half feet high. Now I have no running water, i. e., no brooks, running into this pond, but the fish have an abundance of room and food, but whether they will do well in here I do not as yet know, as I have just put in my dam and have not had time to see how they will do. There were thousands of trout in this spring before I put in the dam. Mr. Nevin tells me trout require rapid water and gravel to spawn on. That being the case, do you think any of the spawn will ever hatch in this water, or would it help them to hatch if I let my water off to about one and a half feet?

Ashland, Wis., June 18.

Yours truly,

IRA C. C. R.

Trout would live in such a pond as described. They would also breed in it, provided a few loads of coarse gravel from the size of a hickory nut to that of a hen's egg be scattered over the spring holes. Many more could be hatched artificially if properly managed, but by this arrangement quite a good many young fry would be brought forth without too much expense and with very little trouble.

S. G.

"WHY DON'T THEY GROW BIGGER?"

The following letter of inquiry has been forwarded me for reply:

EDITOR AMERICAN ANGLER:—I know of a lake in this vicinity which is full of small-mouth bass and has been so for years, but the average weight of these fish is a quarter of a pound. The lake is full of red perch, sunfish, shore minnows, etc., but I have not seen but one as large as three pounds caught out of it and that one astonished the natives. These fish are most gamy and plentiful and take the fly freely. Now why don't they grow bigger? There is plenty of range, the lake being ten miles long. In all of its companion lakes the bass average about three pounds, and, what is more strange, they were all stocked from this lake. This has always puzzled me very much and if you can answer it you will do me a great favor.

Taunton, Mass., June 14.

Yours sincerely,

SUBSCRIBER.

The above is from the description given a rather remarkable case, but there is no doubt in my mind but that the cause is attributable to a scarcity of suitable food. The bass, being very abundant, keep the food such as they like reduced to a low ebb, which retards the growth of nearly all the fish. If the lake does not contain the fresh water crab or crawfish I would recommend introducing them, as they are a favorite food of the black bass and they do well in all the waters which have come under my notice that contain them.

There is one thing certain, as shown from planting the bass from this lake into other waters, and that is that the fish will grow large where they are not too thick and have enough to eat, and it makes no difference how thick they are, provided the proper food supply is sufficient. I would also recommend the alewife, commonly called "saw-bellies," for food, as I believe it would be impossible to overstock any lake which contained them, and that, to my way of thinking, is the difficulty with the bass in this lake. It is simply overstocked.

SETH GREEN.

THE FULTON CHAIN HATCHERY TO BE REMOVED.

Following letter and resolutions have been received by me:

BOONVILLE, N. Y., June 2, 1887.

Mr. Seth Green, Superintendent Caledonia Hatchery:—The undersigned, comprising a majority of the Board of Managers of the Boonville Sportsmen's Club, hereby convey to the Fish Commissioners of the State of New York due authority to remove the Fulton Chain Hatchery from its present location to the State dam near the Forge House in Herkimer County, N. Y., in accordance with accompanying resolution.

FRANK A. BARRETT,

GEO. H. BECK,

W. H. ROBERTS,

H. D. GRANT.

GARRY A. WILLARD, Secretary.

At a meeting of the Boonville Sportsmen's Club held in Boonville, N. Y., June 24, 1887, the following was adopted:

WHEREAS the State Fish Commission of New York, believing it for the best interest of all concerned, do ask the consent of the Boonville Sportsmen's Club to remove the Fulton Chain Hatchery from its present location to the State dam, near the Forge House. Therefore be it

Resolved, That the Board of Managers of the Boonville Sportsmen's Club be and are hereby empowered to grant permission to the Fish Commissioners through their superintendent, Seth Green, of Caledonia, to remove said hatchery to the State dam at Forge House in Herkimer County, N. Y., the hatchery to be removed without expense to the said club.

L. W. FISKE, President.

GARRY A. WILLARD, Secretary.

In accordance with the above, and also a resolution of the Board of Fish Commissioners passed at a meeting held in Albany this spring, I have dispatched Mr. E. F. Boehm

to superintend the removal of the hatchery and to set up the apparatus in proper shape. Mr. Boehm left June 20th and will, with the assistance of the guides, commence the work at once.

I have also directed Mr. Boehm to look up the trout spawning grounds in the vicinity and make the necessary arrangements for procuring the fish and taking the spawn, so that there will be no delay when the spawning season opens.

The removal of the hatchery will give a largely increased water supply, which was much needed and thereby greatly facilitate the work.

From letters I have received from the guides and people who reside in this section they feel a deep interest in the success of the hatchery and with their cooperation we shall undoubtedly be able to turn a great many fish into the waters during the coming spring.

SETH GREEN.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

(Reached via N. Y., L. E. & Western Ry.—L. P. Farmer, G. P. A., New York.)

FISHING AT GREENWOOD LAKE, June 25.—Mr. Geo. L. Strong had some good sport with the bass this week. He caught on Saturday eleven, combined weight 20 lbs.; Frank Hazen, guide.

Mr. R. H. Moses caught seven on Sunday, the largest being a small-mouth weighing 2½ lbs.; Geo. Caldwell, guide.

Mr. Moses caught a small-mouth on Monday that weighed 6 lbs., at Little Long Pond; Ben Hazen, guide.

This Little Long Pond is the place where Mr. Reynolds caught seventeen bass, all small-mouth, that weighed over 80 lbs., two years ago this fall. Ben Hazen catches a number of fish off the Windermere Dock nearly every day. The last one he caught was a pickerel weighing 2½ lbs.

Mr. Ben Statter caught a 4½-lb. bass in front of the Windermere House on the 24th, trolling. Albert Carrol has caught from six to ten bass and pickerel in the little pond back of the house nearly every day.

WINDERMERE.

PARKER'S GLEN, PA., June 25.—There are large numbers of black bass being caught in this vicinity weighing from 2 to 4 lbs., also trout weighing from 10 ozs. up to 2 lbs., every day. This place is visited every day by summer boarders and all classes of people. It is noted for being one of the best fishing places along the Delaware River, but I am sorry to say there is no good place for summer boarders to stop, but there is good connection by trains in both directions with Shohola, Pa., one of the most beautiful localities in the world.

C. F. B.

(Reached via Grand Trunk Ry.—Wm. Edgar, G. P. A., Montreal, Can.)

ROUSE'S POINT, N. Y., June 25.—The waters have fallen very much and are clear and unusually calm. Many good catches have been made of black bass and pickerel. Mr. Peltier, G. T. R. conductor, made a very good catch of pickerel of 4 to 7 lbs. Mr. Henry Long, D. & H. C. engineer, caught about 60 lbs. of pickerel and black bass. Many anglers have been seen with large strings of pickerel and black bass. Large lots of small fish have been caught.

R.

(Reached via Rome, Watertown & Ogdensburg R. R.—Theo. Butterfield, G. P. A., Oswego, N. Y.)

CAPE VINCENT, June 26.—There has been but little fishing done the past week. Oarsmen W. Brewster, J. Fisher, C. Borland and W. Warren have been out with different parties, catching in all about 150 black bass and two pickerel.
J. A. W.

(Reached via Boston and Maine R. R.—D. J. Flanders, G. P. A., Boston, Mass.)

WOLFBORO, N. H., June 27.—Five days of rain the past week and no fishing, with the exception of two bass, captured by an unknown gentleman, one-half hour's fishing; weight of largest 4 lbs.; Lake Winnepesaukee.

Anglers who visit Wolfboro will find good hotels and a glut of first-class row-boats. Those who wish for more seclusion can get board at numerous farm houses from one to five miles from Wolfboro, which is a village of 2,500 inhabitants, ninety-five miles from Boston.
C. H.

(Reached via Maine Central R. R.—F. E. Boothby, G. P. A., Bangor, Maine.)

BANGOR, ME., June 25.—The June run of salmon is affording fine sport, and good catches are recorded every day. The pools near the water works seem to swarm with fish. The best catches are made at nearly low tide, but some are taken at nearly all stages of water. The present run of fish are not so large as those taken in May, but are active and good fighters.

Many anglers are present this week from abroad, among them Mr. Hawes, the celebrated fly-caster. The Penobscot River Salmon Club's new club-house is completed, and is much appreciated by visitors, especially ladies, who enjoy watching the sport from its spacious verandas.

Black bass at Pushaw Lake, eight miles from Bangor, are taking the fly very readily, and large catches are being reported. One gentleman from Connecticut drove from his hotel after breakfast, returning in time for tea, with ninety-eight good-sized fish.

Fly-fishing at Moosehead Lake is opening up much better than the past few years, though the water at present is little higher than usual in June. Nice sport is reported from Kineo and vicinity. The Kineo House opened June 18th, much earlier than ever before, and has about fifty angler guests. Black flies are beginning to disappear, much to the relief of the early trout fishermen.
B.

(Reached via N. Y., P. & O. R. R.—A. E. Clark, Ass't G. P. A., Cleveland, Ohio)

LAKEWOOD, N. Y., June 25.—I have been nursing a sprained wrist for a couple of weeks, so could not make last week's mail, but waited for this one. We are having delightful weather, and vegetation is one month ahead of time. The breath of the morning is now sweeter than during any other month of the year. The early angler is the one that enjoys it. How the balm of these mornings floats into the soul and awakens the faculties that have slept dormant through the icy winter! Nature laughs on the hilltops and sings roundelay in the valleys. But a truce to this. This is not giving you the angling news.

For two days previous to June 1st, when our fishing season opened, there was very disagreeable weather, and the anglers that had arrived were discouraged at the outlook for a day's sport. But toward evening of May 31st the clouds began to break away, and the next day opened with all the splendor of a June morning, with a gentle breeze from the southeast, which continued throughout the day. All day long the lake was dotted with boats taking advantage of the opening and the fine fishing. I noticed during the day some very large strings.

One fisherman I know brought in forty fine yellow bass. C. H. Stearns, of Pittsburg, showed up a string of twenty-two.

Your correspondent caught thirty yellow bass, the largest

weighing 5½ lbs. and the smallest 1½ lbs.; total weight 81 lbs. Also a mascalonge of 7 lbs.

Mike Reardon, our game constable, trolled and showed up with seven mascalonge, the largest weighing 10 lbs.

June 4th.—A party of gentlemen from Pittsburg—Mr. H. Yeager, Henry Lloyd, Thomas Fawcett, Sr., Thomas Fawcett, Jr., and L. P. Fawcett, and the writer—chartered the steam yacht Goldie for a day's fishing above Long Point. Everything being made ready the evening before, there was not much to do but pack lunch baskets. We got an early start, leaving Lakewood at 5 A. M., reaching Long Point an hour later, and in ten minutes more all hands were fishing. The day was fine with a good breeze from the west, and bass biting well. After fishing until 1 o'clock P. M., we started on our return trip, well satisfied with our day's sport. We counted up on our arrival at Lakewood, with the following result:

Thomas Fawcett, Sr., 14 yellow bass and 3 rock bass, his largest bass weighing 3½ lbs. H. Yeager caught 8 yellow and 3 rock bass; largest 3½ lbs. Thomas Fawcett, Jr., took 12 yellow and 4 rock bass, largest 4 lbs. L. P. Fawcett caught 8 yellow, 5 rock bass and 2 bullheads; largest bass 4 lbs. Henry Lloyd caught 16 yellow, 4 rock bass and 1 yellow perch; largest bass 4½ lbs. The writer took 20 yellow bass, 4 rock bass and 2 yellow perch; largest 4½ lbs. Total number of fish caught 106; total weight, 201 lbs.; bait used, lake chub.

Mr. A. E. Clark, A. G. P. A. of the N. Y., L. E. & W. Ry., with Mr. Fred Garfield, visited the same ground the following day and succeeded in landing thirty yellow bass, all being large fish, none weighing less than 2 lbs.

Last Tuesday evening, while a young lady guest was rowing on the lake, she was a little frightened by a 4-lb. bass jumping into her boat.
TOM.

(Reached via Grand Rapids and Indiana R. R.—O. L. Lockwood, G. P. A., Grand Rapids.)

BOYNE FALLS, MICH., June 24.—The following are names and addresses of leading trout fishermen of past week: G. R. and J. Bageman, Pratt and Fitzgerald, of Grand Rapids, Mich., made a catch of 250 speckled trout from Deer Creek and Boyne River waters.

Dr. W. C. Jacobs, of Cincinnati, O., with guide, two days' fishing caught between 300 and 400 fine trout, principally from Deer Creek.

S. M. Jones and I. Dawley, of Boyne Falls, made a catch of 206 trout in two days' fishing, all from Deer Creek. The 206 weighed 40 lbs. when dressed. This is a fair average of size.

Ed. Palmer, of Boyne Falls, caught four trout weighing 2½ lbs. Was fishing twenty minutes.

There are numerous others who fish Boyne and Deer Creeks almost daily—fair average catch.

All streams here are trout streams. No other fishing near here. Deer Creek is three miles from Boyne Falls. Boyne River is at Boyne Falls.
O. H. M.

(Via Duluth, South Shore and Atlantic Railway—E. A. Allen, G. P. A., Marquette, Mich.)

MORAN, MICH., June 25.—Brevoort Lake, one of the finest lakes in Northern Michigan, situated two miles from the railway station, with good wagon road, is six miles long and from one-half to three miles wide, all sand bottom. Mascalonge, bass, pickerel and perch are plentiful. Below are some of the fish caught this week.

George Appleford caught with spoon bait in four hours two mascalonge, weight 43 lbs.; four bass, weight 16 lbs.; ten pickerel, weight 40 lbs.; total weight, 99 lbs.

Samuel Sabolefsky caught one pickerel, weight 18 lbs.

L. W.

(Via Chicago, Mil. & St. Paul Ry.—A. V. H. Carpenter, G. P. A., Milwaukee, Wis.)

OCONOMOWOC, WIS., June 21.—The fishing season opened up in our waters very encouraging to the anglers. There has not been a better catch in the waters about this popu-

lar resort for years. Major McDowell, with a party of Chicago, Milwaukee & St. Paul Ry. boys, visited last week some of the smaller lakes south of here and made a string of eighteen black bass, a few pickerel, some fine large perch and any amount of smaller fish. There has been a large amount of fish taken from Lakes La Belle and Fowler, one lake wholly and one partly within the city limits. Some splendid strings of pickerel have been taken from Naga-wicka and Nehmabin Lakes in the past two weeks. There is not a more desirable or convenient place for the sojourn of the angler than Oconomowoc. All the waters easy to reach. Men, boats and bait always plenty. C.

SPIRIT LAKE, IOWA, June 23.—There are three lakes here, all connected, so that steamers can go from one to the other easily, making a circuit of over forty miles for the boats. There are nine steamers, and the lake's sail and row-boats are plenty. Fishing is excellent; pike, black bass, rock and silver bass, also pickerel, are caught in large quantities. I saw one catch made on June 19th of over 200 lbs. of fish, in which was a string of thirty-five wall-eyed pike, some of which weighed $7\frac{1}{2}$ lbs. D. C. J.

FAIRBAULT, MINN., June 22.—The fishing season opened very favorably. Large strings of black bass, croppies, pickerel, wall-eyed pike and perch have been taken thus far this season. Fairbault is situated very favorably for the angler, as within a radius of seven miles there are eleven beautiful lakes abounding with game fish of all kinds. I have captured black bass weighing within 2 ozs. of 7 lbs. XXV.

(Reached via Milwaukee, Lake Shore and Western Ry.—O. V. McKinlay, G. P. A., Milwaukee, Wis.)

RHINELANDER, WIS., June 23.—Fishing in this vicinity for the past few days has been unsurpassed and several large catches came under the writer's observation.

On June 18 and 19 a party of four of us, names as follows: County Treasurer C. Eby, Deputy County Clerk W. W. Carr, Policemen Wm. Lennon and Thomas Gioney, all from Rhinelander, Wis., took in Lake George as follows: Forty-three black bass of average size, four mascalonge averaging 16 lbs. each, twenty-seven wall-eyed pike averaging $2\frac{1}{2}$ lbs. and a number of smaller fish such as rock bass, perch, etc.

Same date Thomas McDermott of this place, took 100 green bass in Town Line Lake in four hours' fishing.

Weather clear and cool; not much wind. C. E.

(Reached via Milwaukee & Northern R.R.—W. B. Sheardown, G. P. A., Milwaukee, Wis.)

PEMBINE, WIS., June 24.—The fishing season is already opening up here in good shape. We have a number of beautiful lakes and trout streams near at hand, among them Rouse Lake, the Coleman Lakes, Beecher Lake, Moscommon, Landgren and other lakes, the north and south branches of the Pike River, the north and south branches of the Pembine River and numerous other little streams and creeks which abound in rock bass, black bass, pike, pickerel and especially brook trout.

The brook trout are so plentiful that one is reminded of the man who started to ford a stream with an empty wagon and came out with it loaded with fish.

Messrs. Brown and Tripp to-day caught 153 trout in about three hours' fishing on Moscommon Lake. Our trout are not large, seldom exceeding 1 to $1\frac{1}{2}$ lbs., but they are very gamy and so exceedingly numerous that on good trout days one can catch all he wants to carry.

The trout and deer are fast making this locality a popular resort for hunting and fishing parties from Milwaukee, Chicago and the East. The deer are almost as numerous as the trout, comparatively speaking. One seldom has to go more than from two to ten miles out of town to meet them. One of them left his tracks directly through the

center of the town one night last week. A bear is brought in occasionally and rabbits and partridge are the small game.

But the principal thing is the trout fishing. I do not believe that any of your readers ever saw a place where there were more trout than there are here. The hotel accommodations are pretty fair and one hotel is now being fitted up expressly for the use of the hunting and fishing parties that come here. Several sites on some of the surrounding lakes have been chosen for new club houses. Mr. W. S. Abbot, the editor of the *American Traveler and Tourist*, has been here this month and pronounces this one of the best trout fishing places in America.

M. C. H.

(Reached via Union Pacific Ry.—J. W. Morse, G. P. A., Omaha, Nebraska.)

DILLON, COLO., June 21.—Not having seen anything in THE ANGLER from Dillon we thought our town was being neglected, although not forgotten. Most especially will it be remembered by those who have visited it during past seasons. Dillon is a small but interesting town situated at the foot of the mountains at the junction of three beautiful streams, namely, the Snake, Ten-mile and Blue rivers, which contain trout in abundance. For the past three seasons this has been a favorite fishing resort for persons visiting these parts. The fish caught here are not large, but are small speckled fish, known as the brook trout. As yet no organized fishing parties have been around, and will not be until July and August, but persons have gone out and met with splendid success. The streams are silvery clear, and the little fellows bite so rapidly that it fills one with delight to catch them.

We fish here in the early part of the season with grubs, but now with the black fly, both natural and artificial.

On last Saturday afternoon Mr. R. Coots got off the Union Pacific train a mile above town, and after fishing for about one hour brought home seventeen fine trout.

Mr. N. Fry also went out one afternoon last week and brought in a fine string, among which was one of the largest fish ever caught near Dillon, its weight being $2\frac{1}{2}$ lbs.

Mr. and Mrs. J. C. Teller also report having good luck and many fine trout suppers. T. J. B.

ESTABROOK, COLO., June 20.—Fishing in the Platte River has commenced. The water has become clear and somewhat lower, but few have been fishing yet. Three little boys caught 124 fine trout Saturday and Sunday last. This place is fifty miles from Denver and with the advantage of reduced rates for round trip tickets ought to be an attractive spot for those wishing to spend a few days fishing and enjoy the cool shades of Platte Cañon.

J. H. McF.

BALDWIN MINE, COLO., June 21.—Since writing you last several fishing parties have been out and each has met with good success. One party, composed of the following named gentlemen: Mr. F. J. McKay, Captain John Rea and Col. J. D. Farrell came in after a two days' fishing trip with 263 nice trout. Mr. McKay made the greatest catch this season, having caught sixty-four trout on the first day. This party reports that the streams are clear and that they never knew the water to be in better condition for trout fishing.

The only bait that trout will take yet is the common grub. They will not rise to a fly and so far this season the greenest fisherman has met with almost as much success as the most expert, little or no skill being required in the angler in order to bag from twenty to thirty trout in one day's fishing. The sport of fishing with grubs is not so exciting as when the fly is used, but the satisfaction of coming home with a bag full of trout seems to more than compensate for the loss of that keen excitement which every true fisherman takes such great delight in. Trout do not generally rise to a fly in this part of the country until about the middle of July, and they range in weight from $\frac{1}{2}$ lb. to 3 lbs. I. P. C.

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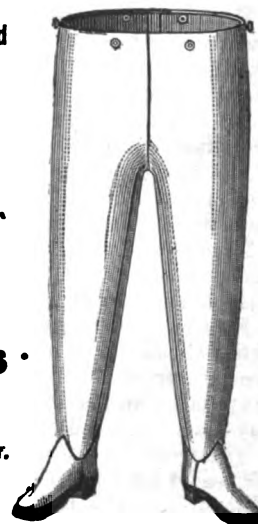
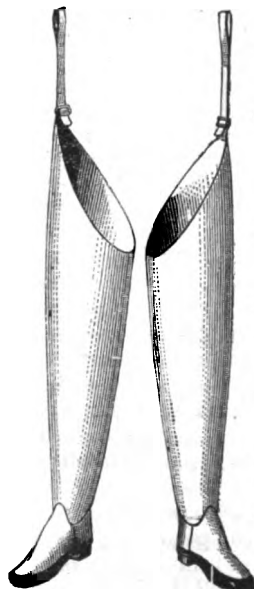
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NEW YORK—CHICAGO, JULY 9, 1887.

VOLUME XII, NUMBER 2.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Boulevard St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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A MUCH NEEDED LAW.

A curious and culpable inconsistency exists in the New York law relative to the game and fish protectors of the State, which in justice to the Fish Commissioners should be explained and corrected. The commissioners, who are held responsible for the work of the protectors, have simply the privilege of recommendation to office (an inherent right of the humblest citizen), the power of appointment and removal of protectors lying solely in the hands of the Governor, hence the semi-political influence, to put it mildly, that surrounds the important position of guardian of the game and fish laws of the State.

Several of the protectors are inefficient and, in one case,

superannuated, yet the Commissioners are powerless in the matter, and the result in several districts is evident in the entire neglect to execute the laws, and a disgraceful timidity under the threats of a lawless pot-hunting community.

The remedy for all this lies in the creation of an office of "Supervisor of Game and Fish Protectors," and the appointment of a man of stern and able executive ability, with power to appoint, remove, assign and control the men acting as wardens. It behooves all lovers of angling to be astir in this matter, and to center their efforts upon the passage of such a law by the Legislature at its next session.

THE MONSTER TROUT QUESTION.

It will be remembered that we reported a trout caught in one of the Rangeley Lakes last year as weighing thirteen pounds. Subsequent investigations and a personal interview with Mr. Grote, the fortunate captor, reduced the weight to twelve and a half pounds, with dimensions as follows:

Length, twenty-six and a half inches; girth, seven and three-quarter inches; thickness, four inches.

We reproduce the above description in correction of the inadvertent statement that a trout recently caught in the above named waters "broke the record" at eleven and three quarter pounds, although the following letter from Mr. C. T. Richardson, the able Superintendent of the Oquassa Club, would seem to indicate that if the latter trout had been weighed previous to the exudation of the spawn both fish would have been nearly equal in weight:

INDIAN ROCK, July 1, 1887.

Wm. C. Harris, Esq.—MY VERY DEAR SIR:—Yours of the 29th ult. just received. In reply will say I saw the trout weighed after nearly one pint of spawn had run from her. Her weight was eleven and three-quarters pounds. Several gentlemen saw it weighed, whose names I will send you if you wish. Dr. Mixer made the largest record of three fish (trout) that I have ever heard of; three trout weighing twenty-eight pounds. The trout were weighed honestly and there is no guess work or humbug.

Sincerely yours,
C. T. RICHARDSON.

Mr. M. M. Barker, our traveling correspondent and business agent, is now in the West, where he is meeting with a cordial reception from the anglers of that section. Mr. Barker is an old sportsman, with an experience dating back to the days when Squire Smith (Uncle Horace), the old veteran of the dog and gun, was in his palmiest years. We commend Mr. Barker to our friends throughout the country, and especially to those who desire to enroll their names upon our subscription list.

THE FISHICIANS CLUB OUTING.

BY F. D. W. YAD, M. D.

[Following is the plain unwaterproofed tale of an old-fashioned trouting outing among the Catskills in the days when there were trout in those charming haunts—the gift of Nature to her votaries—and whole-souled men loyal and true who dared to love Nature more than money or fame, and each other as themselves. It is a record of a phase of life we have striven to subdue with all the might of modern methods and will perhaps be of interest only to those who have learned to live in memories of the past or who may perhaps recognize distinguished names of distinguished men under the flimsy disguises herein adopted.—Ed. A. A.]

As the spring of 1865 approached those members of the Club of Fishicians who were located in New York had several informal meetings and there was much correspondence between them and other members dwelling in provincial towns. The corresponding secretary also scattered many letters broadcast over the land, in which were propounded many questions, all looking towards the streams of Maine as the ground for the next campaign. But the club finally abandoned the trip to Maine, when they learned that trout do not take the fly in those waters until the middle of June. They relinquished the idea of going to Maine with the less reluctance that a trip so far from railroads and telegraphs presented some objections to those of the party who were men of family, and then there were others whose health and tempers would have suffered from so long a postponement of the spring fishing.

The corresponding secretary, therefore, laid up his elaborate paper upon the "Fisheries of Maine" and the club was really "all afloat."

About this time a letter came from "the Judge," proposing that we should try the Neversink again. This was not altogether unfamiliar ground, for the club had tried it the preceding spring and found it wanting; it began to be,



however, "there or nowhere," and as we recalled the scenes of our former "bout," its dark pools and bright shallows, framed in hemlock and laurel,* together with the substantial comforts of bed and board, won us over.

Then came the stage of joyful expectation and active preparation, a very important part of the angler's pleasure. Rods that for months had been hibernating in case and

* Rhododendron.

closet were brought to the sunlight and the "moving accidents of flood and field" repaired. Reels and creels were inspected; those lines which had fallen for us in so many pleasant places were gone over carefully; old clo' promoted to fishing coats and pants were repatched and cupboards were searched for old umbrageous hats accustomed to our phrenological developments. The tackle shops were visited and much time and pleasant solicitude spent in the selection of flies. [When one goes to buy flies without knowing exactly what he wants his expenditure is only limited by his means.] In this compartment lie some indispensable coachmen, yonder some sober gray, red and brown hackles; here a bunch of little blues—"You may give me



half a dozen"—here a lot of those blessed "beaver killers," and you think that will about do you. "Ivins, you never were more mistaken in your life. You have just begun to buy." Yonder are some "cow dung" and rantankerous "professors," risky to be without; there are some white millers which, one's own experience to the contrary, everybody knows are irresistible in the gloaming, or ought to be. There are some iron-clad stone flies, and, in short, as you glance over the assortment you see dozens of palmers, hackles and wing-flies, dressed with all manner of legs, wings and tails; with silks and dubbings, feathers and floss of many hues, all tied so neatly that you must not be without a few of each, lest one should be the taking fly. And so when you have put the fat envelope into your pocket, along with a nine-foot casting line or two, having previously schooled your facial muscles into an expression of unconcern, you pay your bill like a philosopher and think yourself fortunate indeed if you can afford to buy an evening paper and indulge yourself in a ride up town. Flasks and pipes and wind-defying matches are not likely to be forgotten, nor the stores for lunch, nor the wading shoes, full of memories, perchance of holes, half hobless and dented all over with honorable scars like a monitor laid up in ordinary.

The arrangements for teams were left as usual in the hands of "the judge." But gradually a cloud, at first only so large as a good-sized man's hand, began to assume for-

midable proportions, until at length half of the cerulean was hung in black. Sito, Drap and finally Frank notified the club that, between business and physical disability, they should be obliged to take their names off this year's roster and content themselves by recalling the days that had been.

In spite of these discouragements, which robbed the club of half of its members, it was resolved to "move immediately upon the enemy's works."

Accordingly Admiral Adams, with his flag-ship the *Mary Powell*, having on board the supply train and the hardware stores of the U. S. S. Commission, executed a rapid flank

rich in nodding crops, studded in May with flowering orchards; over rolling hills and across valleys which stretch down to the river, beyond which rise the not undignified ranges of the Shawangunk Mountains. The farm houses too have often some pretensions to architectural beauty and have always about them a "home" look, being set back from the road and shaded by trees, whose stately proportions tell complacently that those who planted them have "lived here man and boy" for many a year of honest work, reaping well deserved reward. There are many water privileges upon this route, and, as this club has a semi-scientific character, it has always been the habit of its members to



movement on Rondout, which he took on the afternoon of Saturday, May 20th. A proud moment this for the Admiral. It was not the first time he had burned powder on this very ground. The screeching of his bomb shells and the blare of his bugle! had been heard there before and his ears had welcomed there the notes of "morning call."

Having placed the town under martial law and confiscated an omnibus, he marched rapidly on Kingston. The behavior of the troops was excellent. No pillaging was permitted and the inhabitants in several instances came to their windows in crowds of twos and threes. Kingston surrendered without firing a gun.

On Monday, May 22d, Major General Fitz, and Brevet Brigadier General Yad broke camp at Catskill at 5 A. M. and took the H. R. R. R., without the loss of a man, as far as Rhinebeck. A pontoon bridge was thrown across the river by a fat Dutchman, whose name our reporter was unable to learn, and, hurrying through the ruins of Rondout, they made a junction with Adams at about 8 A. M. of the same day. The privacy of that interview must be sacred! As those war-worn veterans clasped each other's hands what memories of former days must have crowded on them. After a few informal remarks from the Admiral upon the hat of General Yad, which he then saw for the first time, the *impedimenta* were very carefully stowed upon the stage as nearly as possible in the same manner as they had been for the last twenty years, and, outside seats having been secured, the party started for Ellenville.

For several weeks preceding the clouds had "brought fresh showers to the thirsting flowers" almost every day and the country was in full dress. The secretary believes that this drive is unsurpassed for freshness and a certain kind of beauty. It runs through a highly cultivated country,

make analytical examination of the streams that cross their path with a view of ascertaining, first, their chemical reaction, and second, their value as mill-sites. It is the opinion of the club that the indiscriminate use of these waters by unprofessional persons, excepting for purposes of ablution, is fraught with danger.

There were few incidents worthy of record at this part of the journey. A capital dinner was enjoyed and there were no drawbacks on the drive excepting the bad state of the roads. There were a good many cigars smoked on the top of that stage before we reached Nappanock, which,



owing to the driver's extreme humanity towards his cattle, was at the late hour of *3.30 P. M. Here we found a large body of yeomanry assembled, who informed us that the road was hard and suggested that "now the fish had got to suffer," but they did not mention anything concerning the "permanent bridge." Yenvilliqu's two-horse team met us here, and having transferred our goods to it, with that decorum and attention to detail for which the club is so justly famous, under the guidance of a youthful Jehu, we struck off into the regions of trout streams and bark peelers.

[TO BE CONTINUED.]

* There is a great difference in drivers. Because "money makes the mare go," it's no sign that whisky and cigars will,

Notes and Queries.

TOURNAMENT SUGGESTIONS.

I understand that some of these days a meeting of the Rod and Reel Association will be called, and having some idea as to the rules, pray discussion of the same.

Methinks there should be a limit to the size of line used in single-handed fly-rod casting and to the weight of rod. What should it be?

The entrance fee in each contest should be reduced to fifty cents.

Contestants should be classed after the precedent of trotting horses. Thus in single-handed fly over hand rod casting I would suggest classes as follows: Sixty feet; seventy feet; eighty feet; eighty-five feet; ninety feet and upward. No man to cast below his class except in a free for all. This should bring in a lot of contestants.

If the entries were very large I would give the judges discretion to cut the time down to five minutes, with power to give five minutes more to the first three or five casters.

I would do away with Rule 2, as to what constitutes an amateur.

The method of counting points for accuracy cannot be bettered from the plan adopted on the second day, which should be made compulsory. Delicacy, I suppose, must be handled by general guess.

Now, first, how do these changes strike my brother anglers, and what should the classes be in single-hand, salmon, minnow and heavy bass-casting?

New York, July 1. GRAYDON JOHNSTON.

BLACK BASS NESTING.

As we have no restrictions on hook and line fishing in this State, our love for bass fishing is restricted by nothing but our conscience. On account of high water and other delays I cast my first minnows on the 23d and 24th of May. The water and the days were perfect, but the score was small, as three for the 23d and one for the 24th were all I secured. All caught by casting the minnow.

While fishing these days I saw many black bass on their nests. One nest in particular attracted my attention. It was situated in a little neck of still water from six to eighteen inches deep. I saw the old bass run into deep water as I came near, and looking closely for the nest, hundreds of little black bass were found, swimming all over the hole. They were about one-third of an inch long and very lively. In showing the nest to my companion we several times disturbed the old bass, who would stir up muddy water as she skurried away. The next day when passing the place I thought to give our bass a call. But no; they were all gone, young and all. The old one, I suppose, took them to a new and more secluded place.

Another nest had the spawn just hatched out, and the young so helpless as not to be able to swim from the bottom of the nest, but there they lay among the small stones a helpless black mass. Five weeks after I happened by this nest, and you can imagine my surprise to see a bass dart away, and

on close inspection all signs of the nest were gone; but the place was full of small black fish half an inch in length. Who would doubt a black bass' tender, motherly care after this? As the river during this time was very high, I suppose there were some washed away during the high muddy water; but that she kept so many shows with what care and motherly love she watched over her young.

These bass were of the small-mouth variety.

D. E. C.

Wadsworth, Ohio, June 29.

THE BLACK BASS OF LAKE ERIE.

The enclosed may serve to answer the inquiries of a subscriber and show that the small-mouthed black bass do predominate in Lake Erie. No other species taken.

New York, July 7.

JNO. MCGINNIS, JR.

Date.	No. bass caught.	No. of rods.	Average per rod.	Locality.	Wind.
May 16.	414	29	14-3	Hen and Chickens.	N. W.
May 17.	143	22	6-5	East Sister.	N. N. E.
May 18.	299	18	16-6	East Sister N. Harbor.	N. E. W.
May 19.	350	29	12-	East side Pelee.	S. S. W.
May 20.	402	28	14-3	" " "	S. W.
May 21.	461	20	23-	West side Pelee N. Bay.	S. S. W.
May 23.	686	22	31-5	" " "	S. W.
May 24.	224	9	25	" " "	W. S. W.
May 28.	53	6	9	" " "	"

MEMORANDA.

Total number bass caught during spring season, 1887.....	3,032
Average per rod per day.....	17
Largest fish—V. O. Turner.....	4 lbs. 7 oz.
Largest catch, one person, one day—Chas. S. Mills.....	104
" two persons, one boat—O. S. A. Sprague and Bartlett,	118
Total catch by club to date.....	14,933
REMARKS—The Pelee Club have their club house on Pelee Island, Ontario, Lake Erie.	

GUIDES WHO FISH.

There is no doubt from the many exclamatory remarks made at sundry times that there is a radical wrong in the direction of "guides who fish" which needs correction. It is true that there are many who call themselves anglers who regard only the quantity of fish brought to boat—subsequently multiplied—and whose only aim is numbers and a perfect willingness, possibly even a desire, that the guide shall assist as far as possible.

For these and their ways the guide is not to be blamed; but, supposing an angler, who goes a fishing for the love of fishing, shall find, when he is about to get into his boat, that the oarsman or guide has seen to it that he (the guide) has a rod or two ready to join in the sport; suppose the guide shall, under pretence of caring for the bait, also see to it that the angler shall use up all the maimed, dying and dead fish, while the guide shall have the largest, liveliest and best fish for bait; suppose, as is then natural, that the guide catches the best fish and the angler has the luxury of seeing it done and paying roundly for it; suppose the angler desires fly-fishing or bait casting and because the fish are not "rising" every few feet along shore the guide insists that it is necessary to anchor and still fish, so he can put in his work; suppose the angler foolishly yields to all the guide's wishes and returns home with a goodly catch and is forced to admit, at least mentally, it is a nice

catch but I had no luck. Jim or John (all guides are Jim or John when they are not Jacks) had the luck.

Condense these suppositions together and call them *facts*—and they are—hard, stubborn facts. What then?

When you are settled down in the evening you can count the cost. It cost you say \$5 to \$10 to come here and costs you some \$5 or \$6 per diem to fish, and you have 0, except the pleasure and benefits you could get quite as well *without fishing*. The fact seems to be you have put out \$7 or \$8 (including fare) per day to come here and see a man fish.

"It is not all of fishing to fish," fortunately, but there is no equitable return to the angler for the expenditure. It is not so in all places nor with all guides and those guides who succeed in the long run are those who do not fish, but apply themselves to securing for their guests all the pleasure possible.

One of the most popular resorts is the Thousand Islands, St. Lawrence River. Do you find the guides fishing there? No, you will find them wide awake, attentive, courteous and doing all they can to please their patrons. If you but turn to the columns of this paper you will see a prominent push to the front of guides in your reports, and a good guide, who *don't* fish, is very commendable and should be favorably known, but it should end there.

Your remedy, brother anglers, is in your own hands and as you pay roundly to exercise it you should not hesitate to apply it.

To prevent the fishing forbid absolutely (as I have done) the placing of any other fishing tackle than your own in the boat before starting out. Secure the best bait (for which you pay) if you admit the guide's rod; put the bait pail in front of you and select your own bait and give him the "*refuse*" and then see if your luck don't suddenly change for the better.

Haven't you had, brother anglers, some of this

Mohawk, N. Y., July 1.

EXPERIENCE?

FISHING WITH A HOE.

Ex-Judge M— was at the age of twenty-three or twenty-four an excellent judge. He is now an able, level-headed lawyer, a terse writer, a lover of the beautiful in Nature and art. He is on intimate terms with Mount Washington, The Slide and most mountain peaks in the Northern and Eastern States. No pretty landscape, moss-banked stream or sparkling cascade escapes his notice or fails to excite his admiration. Withal he is a humane and kind-hearted man.

But he is *not* an angler. A few years since, while rusticated in the Catskills, he came upon a small trout stream—made smaller by a prevailing drought—in a pool of which he saw many fair-sized trout had gathered. He went to a house near by and borrowed a boy, hoe and tin pail. With the help of the two former he made a dam above the pool to divert from it the little water running into it, and another at the foot of the pool to prevent the fish from leaving it; then with the pail dipped the water from it, and lastly *picked up* a half pailful of three to six-ounce trout. And the good Judge, with a shamelessness in ill accord with his nature and character, boasted of his barbarous, if ingenious, exploit.

F.

"A. N. C.'S" COMPLIMENTS TO MR. WM. H. WOOD.

WEIGHING LARGE FISH.

Mr. Cheney presents his compliments to Mr. Wood and desires to thank him for his admirable suggestion as to the manner of accurately weighing large fish on small scales, which on a recent occasion was applied in a most satisfactory manner to weighing a 13½-lb. lake trout on 10 lb. scales; but it occurs to me that as it was not my fish, perhaps it would be proper to say Judge Ranger presents his compliments to Mr. Wood, or Messrs. Ranger and Cheney present their compliments. However it should be, for my part, I wish Mr. Wood to receive thanks and I will tell why.

Last month Judge R. and I went to Lake George for our annual lake trout trolling and one day I noticed that the Judge, whose boat was a little distance from mine, was having an altercation with a big fish; before my man turned and rowed toward the scene of action a yell from the Judge's boat that caused sixteen fishermen and their sixteen boatmen, who were within a few miles of the spot, to turn their heads and look in that direction, informed me that he had hooked and saved (the Judge simply howls when he looses a big one; he never yells on such an occasion) the largest trout of the trip. When I got within speaking distance he called to know how much my scales would weigh and I told him eleven pounds at a pinch, although they were only marked for ten pounds. The Judge had forgotten his own scales and I did the weighing for the party. When I announced the best my scales would do he replied with a most satisfied air:

"They can't weigh *this* fish" (holding it up.)

"Yes they can, and weigh it correctly."

"The sun seems to have turned your head or else you do not see what kind of a fish this is."

"Yes, I see that it is a trout that will weigh over twelve pounds, and with ten pound scales I will tell you, when we get to the cottage, how much over."

While returning to the cottage the Judge caught another good fish and when we landed I weighed the latter and found that its weight was ten and a half pounds. Then I procured a board and fastened cords at the ends as Mr. Wood directed in *THE ANGLER*. Placing the larger trout on the board one end weighed nine and a quarter pounds, the other nine and three-quarters pounds, or a total of nineteen pounds. The board and cords weighed five and a half pounds and I announced the weight of the fish as thirteen and a half pounds. The Judge had been a silent spectator, but at the announcement he queried:

"Who will believe that weight if I should tell how you weighed the fish? *I don't believe it myself!*"

"Well you know the other trout weighs 10½ lbs."

"Yes."

"Boney, put it on the board; one end weighs 9 lbs, the other 7 lbs., or a total of 16 lbs.; deduct 5½ lbs. for board and cords, and it leaves 10½ lbs. of trout. Are you convinced now?"

"Yes; come up to the cottage."

A few moments later the Judge asked:

"Where did you 'nip' the idea of the board, the strings and the rest of the 'circus?'"

"I got them from Mr. Wood, the tarpon slayer, in *THE ANGLER*."

"Well, here's to Mr. Wood."

"Here's to both of 'em."

A. N. C.

Glens Falls, N. Y.

EELS FEEDING ON FLIES.

Basil Field, in an English magazine, writes as follows:

I have said that I never heard of an eel taking a fly. I should have been more accurate had I said that I had never heard of an eel taking an *artificial* fly, for I have seen eels feed most voraciously on the larvæ of water-flies. Many of these insects adhere in clusters to the stems and leaves of subaquaceous plants.

One evening in the summer of 1883, in the Test near Romsey, I saw a number of eels feeding on these insects, and so busily were they engaged in picking their food from the leaves of the "pond-weed" (*pota mogeton*) that a gentleman who was with me succeeded in capturing two of the largest with my salmon gaff. He watched till an eel's head was under a leaf, and then putting his gaff very quietly into the water he brought it under the thickest part of the eel's body, and struck with a precision that surprised me, although I knew him to be an experienced gaffer. It is true he missed one or two, but an eel can only be transfixed if the point of the gaff strikes diametrically in the centre of its body, otherwise the point slips without penetrating. I had at first thought that the eels were feeding on snails; but on examining the under sides and stalks of the weed I found numerous larvæ of water-flies having fan-shaped gills—probably the larvæ of the later dums or of some other members of the family of *Ephemeridæ*. I knew that these insects were eaten by trout, having frequently found them when examining the contents of a trout's belly and I doubted not that whatever was meat for a trout was meat for an eel; but I had always understood that eels rarely came near the surface of the water in search of food, and never did so in daylight. Yarrell, however, says the Hampshire eel differs from the two other known species of fresh-water eels not only anatomically but also "in its habit of roving and feeding in the day." (See Yarrell's "History of British Fishes," Vol. II., and Jesse's "Gleanings in Natural History," second series.) It may be that this eel is exceptional also in its fly-eating propensities, but I merely record the fact and leave deduction to naturalists. The eels in the Test occasionally grow to a very large size. My keeper caught one of four and a half pounds in weight on a pike trimmer baited with a good-sized dace. Indeed, all kinds of fish in the Test attain dimensions quite out of proportion to the size of the river. This is probably due to the quantity of food yielded by streams running through a chalky bed.

In connection with the above it may be interesting to state that the common water snake will take an artificial fly with eagerness and give such play on a light rod as to make the angler use cuss words if he be not of extremely self contained habit.—Ed. A. A.]

THE EEL AS A SPAWN EATER.

A few days since the "Sherman Gun Club" folks deposited from 2,000 to 4,000 young eels in each of our three streams and we notice they are being put in nearly all the streams in the southern part of the State, being sent from the State Hatchery at Sandusky.

Since the fish laws have been enforced for the past three years we have had nice sport and have been congratulating ourselves that in a few years we would have fishing second to none.

We are of the opinion that the eel is a destroyer of spawn and an enemy to all game fish. Are we right?

Columbus, Ohio, June 23.

J. W. McC.

[Our correspondent is correct. As a spawn eater the eel is "high hook."—Ed.]

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

DISTRIBUTION OF FISH, NEW YORK STATE HATCHERY.

The season for the distribution of fish from the Caledonia Hatchery closed July 1. The following are the total number of each kind of fish and spawn sent out:

FRY.	
Salmon trout.....	2,408,000
Brook trout.....	1,185,000
California trout.....	935,000
German trout.....	298,000
Whitefish.....	837,000
	<hr/> 5,503,000
SPAWN.	
Salmon trout.....	1,055,000
Brook trout.....	225,000
California trout.....	426,000
Whitefish.....	103,000
German trout.....	142,000
	<hr/> 1,951,000
Total fry and spawn.....	7,454,000

These, together with the total number of shad, 3,822,000, as stated in the last issue of THE ANGLER, make a grand total of 11,276,000 young fry.

In addition to the above there were the following adult or breeding fish sent out:

Black bass.....	442
Rock bass.....	180
Bullheads.....	100
Oswego bass.....	30
Wall-eyed pike.....	10

Total.....762

Of the spawn sent out which are included in the above list there was furnished to other hatcheries in charge of the New York Fish Commission as follows:

Adirondack Hatchery, 400,000 salmon trout, 10,000 German trout and 103,000 whitefish.

Cold Spring Hatchery, 90,000 speckled trout and 10,000 rainbow trout.

St Lawrence Hatchery, 16,000 California trout.

Fulton Chain Hatchery, 450,000 salmon trout, 60,000 speckled trout and 50,000 German trout.

The season just past has been a very successful one. The fry have been healthy and vigorous and have reached their destination with but very slight loss. In fact I have heard of the loss of but a single shipment this season and they were adult fish, which was due to not following directions. The party allowed them to remain at a station alone all night and in the morning as a matter of course they

were all dead. This I call criminal negligence and should be punishable by a fine and imprisonment.

The demand for all the kinds of fish we have for distribution has been very great and many more could have been advantageously used if they could have been obtained.

SETH GREEN.

LAKE ONTARIO SHAD.

I am informed that several fine shad have recently been caught in Lake Ontario in the vicinity of Cape Vincent. Some of them weighing as high as five and six pounds. They are adjudged by those who have had the pleasure of eating them to be equal in every respect to those reared in the Hudson River. They are the result of those deposited by me several years ago from fry hatched in the Hudson. There is no doubt in my mind but that shad could be made very numerous in Lake Ontario; it is merely a question of putting in a sufficient number of young fry. In proportion to the number deposited they have yielded an abundant return.

SETH GREEN.

THE FULTON CHAIN HATCHERY REMOVED.

Under date of June 27th, Mr. E. F. Boehm reports that he has, with the assistance of eight guides, succeeded in removing the Fulton Chain Hatchery close to the Forge House, and will have it in proper position in two days more.

S. G.

COST OF FISHING BACK BAY.

In response to inquiries regarding the expense of a trip from New York to the Great Back Bay of Lake Champlain near St. Albans, Vt., would state:

Railroad fare (via Rutland, Vt.) and sleeper, to go and return.....	\$21 00
Stage from St. Albans to Back Bay and return.....	3 00
(I think this item of stage \$1.50 for five miles, to Lake View House, and same to return, should be very much reduced to induce guests to visit the place.)	
Hotel board per day.....	2 00
Guide per day, \$2.50; boat, 50c.....	3 00
Bait—live minnows—per hundred.....	1 00
<i>New York City, July 1.</i>	

H. F. P.

THROWING THE LINES.

Now hies the angler to the brook,
Where, in some cool, sequestered nook,
He labors hard, by hook or crook,
To get a bite.
He bags a lot of bugs and ants,
He stains with green his stylish pants,
Then weaves a picturesque romance
To tell at night.

The fishermaid, with better bait
And guided by a kinder fate,
Now tries, with youthful hope elate,
The waters blue.
With tackle better and completer,
She finds the occupation meet
To fish for men, like Simon Peter,
And catch them, too.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

The past week for local salt water fishing has been exceptionally good. From all along the adjacent coast and from the bays we hear of excellent scores, especially from the Great Kills, of which we have a personal knowledge. The weakfish at this point have been running freely and to a certain extent have been puzzling the old fishermen, particularly when they try to account for the erratic biting humors of these fish. During the week before last it was an exceptional catch to boat one on the flood tide on the flats and but few were taken inside the Kills, the only water which seemed to hold them on the flood being the outer beach about three-quarters of a mile below the point. The past week reverses this condition and large quantities have been taken on the flood tide in the Kills. The flats opposite Fitzgerald's still continue to be best on the ebb tide. It is an established fact that a heavy thunder shower drives these fish from their feeding grounds in shallow water for at least twenty-four hours.

EIGHT DAYS AT GANANOQUE, CANADA.

Mr. J. H. Stead, of this city, returned a week ago from Gananoque, where he had a successful and enjoyable fishing trip, some details of which may be interesting, as Mr. "Jack" Stead is a first-class all round angler whose experience and knowledge of the art are thoroughly practical. Mr. Stead stopped at the Thousand Island Park House, although it is five miles from the fishing grounds, which is on the Canada side by the islands near the light-house, the distance being covered each day in a row-boat, a bit of exercise which our athletic friend regarded merely as an appetiser. By the way, perhaps the guide did the rowing—didn't think of that; but the guide's name was John Tead, and one little letter oughtn't to make much difference anyhow.

Mr. Stead staid eight days, and it rained most of the time, but he had good black bass fishing, and though they were not large—averaging not over a pound with a maximum of two pounds—they were so plenty and in such good condition and so gamy as to afford such excellent sport that to use Bro. Stead's own forcible expression, "A half-pound fish acted bigger than a barrel." They were all small-mouthed bass, and the catches averaged at least sixty per day.

A number of large and gamy chub were taken, one weighing over 3 lbs., casting with strips of pork.

There were pickerel all over, one weighing 8 lbs. and another 6½ lbs., being hooked by a little girl fishing off the dock with a piece of meat. Boats are fine affairs there, being made of cedar or pine, with nickel-plated trimmings, and "out-rigged" stub rods projecting over each side for trolling provided with sleigh bells, so that the "angler" can tell when a fish strikes. They ought to add a fog-horn attachment so that the boys can blow their big catches, and a Babbitt's multiplying machine to figure up the score.

B. B.

NOTES FROM KEOKA LAKE, MAINE.

The waters have been unusually high and 'tis thought by many that this accounts for the bass being a little off in their biting disposition. I have succeeded in taking in a few out of the wet with flies, trolling quite deep; can't work them up to the rising pitch yet. My largest so far weighed two and a quarter pounds; my largest pickerel three and a half pounds. I have found that early in the morning and just before sunset are the best times so far.

Mosquitoes have been more plenty than I ever saw them before so late in season. The trout brooks have been very prolific of small trout. I haven't worked myself up to the point of catching them, but presume I may have to come to it to satisfy a one-legged brother who can't catch them and dotes upon trout.

At Highland Lake they have taken full advantage of the law allowing black bass to be taken at any time and have scraped them in by the basketful. Some are in hopes to exterminate the b. b.'s and substitute land-locked salmon. I presume these folks have money enough to go elsewhere for five or ten years after the black bass are gone and the land-locked salmon are growing. I can hear of but one land-locked salmon caught in Long Lake, though I hear of a number hooked and lost. The white perch fishing there will be an attraction this year, as I hear they are quite plenty. I am in hopes to be able to give them and the land-locked salmon a trial soon with Bro. Mead. A loon was shot there a few days since with five white perch in his crop. They do more to deplete these lakes than all the anglers combined and I advocate a reward for their heads. I hear that the Providence party are to be at Highland Lake again this year.

You say "a trout that breaks the record." I would like to know what record (11½?) Last year it was a 13-pounder, and brought down to nearly 12 lbs. by persistent agitation. We want details with affidavits, no stuffing, if they continue these reports.

"A Law-maker and a Law-breaker" is a honey-cooler from away back—an *honorary* member, forsooth!

With the thermometer above ninety and little ripple in the lake there is not much of an inclination to fish. I have an engagement to "try 'em" at 4 A. M. to-morrow; think I shall try minnows. A gentleman caught a catfish on a fly trolling quite fast, a few days ago, the first I have heard of. This beats the sucker record. P.

Waterford, Me., July, 3.

OATKA CREEK, N. Y.

This creek, which furnishes the town of Mumford with water power, still contains a few of its native trout. It was at one time a noted fishing water, but now "the skill and perseverance which the angler is required to use in catching the wary fish serves in some degree for their protection," at least so saith the editor of the *Rochester Advertiser*. The stream is fed by living springs, and the water has a deeply blue cast, which probably arises from the blue clay beds out of which a portion of the springs flow.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

TROUTING AT ST. GABRIEL DE BRANDON, CAN.

The following parties have visited these lakes since the 30th of May and have recorded the following:

H. Q. French, New York City, from May 30th to June 5th, forty-eight trout weighing 25½ lbs. The first day he took seven that weighed 7½ lbs.; his largest weighed 3 15-16 lbs.

H. J. Wemple, New York City, in the same time, took forty-eight weighing 27 lbs.; largest 2 lbs.

M. J. French, Syracuse, took eighty-six weighing 31 lbs.; largest 1 lb.

Ed. Tatham, New York City, took ten weighing 5 lbs.; largest 2 lbs.

Benj. Tatham, New York City, took twelve weighing 5½ lbs.; largest 1½ lbs.

Sanford E. Gee, took five weighing 4 lbs.; largest ¾ lb.

H. W. Atwater, Montreal, took fifty-eight weighing 23 lbs.; largest 1½ lbs.

Messrs. Sparrow, Greives and Elliott, Montreal, took 189 weighing 52 lbs.; largest 1 lb.

Messrs. R. N. Patterson and Dwight Richardson took the largest and finest catch, but forgot to leave their record.

Messrs. L. C. Smith and P. Burns, of Syracuse, took in four days 144 weighing 49 lbs.; largest 1 lb.

I may here say that owing to the quantity of snow that fell during the past winter the lakes and rivers have been unusually high and are now only reaching their summer level. I expect that the fishing from this out will be exceedingly good. E. M. C.

Mastigouche House, County Berthier, P. Q., June 20.

KINGFISH, ETC., AT OCEAN BEACH, N. J.

I have made the following scores, casting with rod and reel in the surf at this place:

June 19.....	4 kingfish.
" 20.....	12 "
" 21.....	14 "
" 22.....	2 "
" 29.....	15 "
" 30.....	18 "
July 1.....	13 "

Average weight over 1½ lbs. A day's fishing consisted of about three hours on flood tide. A couple of friends fishing with me made as good scores, and on Saturday last landed three striped bass in addition; weights, 2, 2½ and 4 lbs.

I do not know how to account for the large number of kingfish this year; at times they are so plenty and voracious that one can hardly reel in the slack line after a cast before a bite is felt. Frequently two at a time are landed. The largest catch so far was made by two men (natives) last week—sixty on one tide. Bait used for the kingfish was soft and shedder crabs, sea clams and sedge mussel.

July 4.

E. H.

Colonel Mooney and others had good blue fishing last week down in the Great South Bay. The Colonel is one of the "cracks" of the Wa-wa-you da Club, and he has got the blue fish educated almost as fine as District Attorney Martine has his jurymen. The Colonel gets a verdict every time he draws a pole, and the "statute of limitations" don't count,

[Reached via Chicago, Burlington and Quincy R. R.—Paul Morton, G. P. A., Chicago, Ill.]

COPPERAS CREEK, ILL., June 27.—The catches of bass and salmon at Copperas Creek Locks have so far exceeded any week of the season.

Mr. J. M. Stewart, of Lewistown, Ill., caught twenty-nine black bass, all running good size, averaging $2\frac{1}{2}$ lbs., and Myron Olds, of Canton, Ill., made a catch of five wall-eyed pike averaging $4\frac{1}{2}$ lbs.

Mr. Robert Aull and Mr. F. McCogswell, of St. Louis, Mo., have far exceeded any record made in the West in catching white bass. They took with rod and line on the 22d of June forty-nine black bass; on the 23d, 147 white bass, and on the 24th, in the forenoon, ninety-nine more white bass.

Plenty of good boats and minnows are easily procured here. Parties coming by rail can reach there by the way of Canton, Ill.

X. X. X.

[Reached via Central Vermont R. R.—S. W. Cummings, G. P. A., St. Albans, Vt.]

GREAT BACK BAY, VT., June 28.—The fishing in Back Bay of Lake Champlain has been very good this season. The water is now working, variously called "spawning of the water," "water in bloom," "purging of the water," "water in blow," "sweating," "fermenting," etc. The hot weather and extra early season has caused Back Bay to "bloom" earlier than I have ever known it. The late lamented M. M. Backus, of New York City, and Mr. A. N. Cheney, of Glens Falls, N. Y., upon enquiry both wrote me last season, saying in substance that bass will not take bait in blooming season, but Mr. Backus wrote "will take flies at the surface at early morning and after 5 P. M.," which we have found to be correct. It will last but a few days longer and then the fishing in Back Bay will be as good as ever. Please allow me to give you an extract from a letter I received from Mr. A. N. Cheney, of Glens Falls, N. Y., in 1886: "The first 170 bass that I caught at Back Bay averaged 2 lbs. 5 ozs. each and I do not know of any waters where the bass run so large. While they are as game on the hook as one can ask, they are remarkably fat, which makes them superior table fish."

H. L. S.

[Reached via Milwaukee, Lake Shore and Western Ry.—C. V. McKinlay, G. P. A., Milwaukee, Wis.]

GOGEBIC, MICH., June 21.—The weather for the past few days has been very disagreeable for fishing, and the guests have sat around the large open fire-place and swapped fish stories.

On the 11th a party of prominent mining gentlemen came down from Bessemer and made a fine catch of bass.

R. N. Bulby and wife, of Canton, Ohio, for the past week have been hauling out "speckled beauties" from Slate River.

Carroll Wright and wife and Norman Lichty, of Des Moines, Iowa, for the past ten days have had their share of sport in the way of big black bass and trout fishing. Mrs. Lichty took four large bass on two "strikes" the same day, and on the 18th a $4\frac{1}{2}$ -lb. bass and twenty-nine brook trout, all good sized ones.

On the 18th, A. A. Hammond, C. H. Nunger and Fred A. Wright captured sixty-eight trout, all in Slate River and above the falls.

G. R. H.

GOGEBIC, MICH., June 7.—Some very good catches of black bass and speckled trout have been made the past few days. On the 24th Messrs. Paul and Lawrence L. Jones, of Louisville, Ky., captured forty-one black bass and on Saturday, the 25th, took thirty-two bass in three and one-half hours' fishing. They then quit, saying they had all the fun they wanted for one day. Mr. John M. Smyth, of Chicago, captured fifteen bass the same day.

On the 24th Mr. W. W. Hawley and Julius Dick of Huntington, Ind., caught fifty-one black bass in four hours' fish-

ing. Largest 4 lbs. The 25th the same gentleman brought in thirty-one bass, all large sized. Mr. W. H. Wicks, of Hurley, on the 24th hooked seventeen bass and the next day, Saturday, caught twenty-two. Same day Mr. F. C. Smith and Robert Knight, of Chicago, caught forty-four trout in Slate River in three hours' fishing, the most of these weighing from 1 lb. to $1\frac{1}{2}$ lbs. To-day Mr. Carroll Wright and Mr. Norman Lichty, of Des Moines, caught thirty-five black bass.

The weather is beautiful and cool at night, making one or two blankets very comfortable.

G. R. H.

[Reached via N. Y., L. E. & Western Ry.—L. P. Farmer, G. P. A., New York.]

MT. JEWETT, PA., June 27.—The streams in this vicinity are very rough, owing to the large amount of bark being peeled along the banks. We have two trout streams within a radius of two miles, the Kinzu and Marvin creeks. The Kinzu this season has been exceedingly good, and some very fine speckled beauties have been taken from there. I have taken at three different times an average of forty-five in about four hours fishing. The last time, about four weeks ago, I captured fifty-two, the largest weighing about half a pound, which is considered large, owing to the number of fishermen. I, however, saw one on my last trip that I should judge would exceed a pound. The one just named was caught by a boy that was not over ten years of age.

As regards Marvin Creek I can give you no information as yet touching the fishing, but will in a few days, as I have my plans laid to fish it between now and the 15th of the coming month when the season closes.

Clarion River is but ten miles from here, where brook trout abound in abundance, but I learned the other day that the stream was stocked last season and fishing has been stopped for three years. I fished the stream two years ago with two of my friends and in three days we captured over nine hundred. They were very nice, some of them weighing as high as $1\frac{1}{2}$ lbs. Any of the above streams can be reached via the N. Y., L. E. & W., changing cars at Carrollton, N. Y.

W. L. F.

[Reached via Union Pacific Ry.—J. W. Morse, G. P. A., Omaha, Nebraska.]

ECHO CITY, UTAH, June 28.—Season opened June 15th for trout (*S. purpuratus*).

June 16th.—On Lost Creek Geo. Beard and companion caught 407, weight 98 lbs. Flies, coachman and grizzly hackle.

June 18th.—On Echo Creek, E. Shirliff, eighty-six; weight 44 lbs.; flies, Holberton's reversed coachman and silver doctor.

June 27th.—Echo Creek, S. Blackham, sixty-five, weight 33 lbs. and on same date M. McIntosh, with live minnows in Weber River, seven, from $\frac{1}{2}$ to $3\frac{1}{2}$ lbs each. Clear water.

F. H.

If our correspondent will read the reports in this department he will get an answer to his query.—Ed.

[Reached via Duluth, South Shore & Atlantic R. R.—E. W. Allen, G. P. A., Marquette, Mich.]

ONOTA, ALGER CO., MICH.—During this month our local sportsmen have made some excellent catches in the streams in this locality. Mr. and Mrs. Charles H. Schaffer had some fine sport at the mouth of Rock River, which empties into Lake Superior four miles east of here. They captured over sixty speckled trout, the largest weighing nearly 2 lbs. A few days afterward they captured sixty-four nice trout in Whitefish River, two miles west of Onota. From Au Train River, nine miles east, I hear the sport is very good.

Some fine bass have been caught in Deer Lake, about a mile distant. Five men have been arrested for setting nets for brook trout across the mouth of Rock River. They were fined in accordance with the law. Our local authorities are quite vigilant, and are determined to see the game and fish laws of the State strictly enforced.

W. J. P.

(Reached via Northern Pacific R. R.—Chas. S. Fee, G. P. A., St. Paul, Minn.)

BATTLE LAKE, MINN., June 24.—The fishing season is now in full blast. Three gentlemen from Kansas City caught in one afternoon 144 wall-eyed pike, 17 pickerel and 7 dog fish, weighing in all 817 lbs. Another party went to the bass grounds, two miles east from the boat house, and caught in two hours 114 black bass and any quantity of rock bass. Never before was the lake so full of fish as it is this season. H. G. D.

SAND POINT, IDAHO, June 27.—Fishing for the last two weeks, owing to the extreme high water, has been out of the question, excepting now and then a little fishing in the creeks.

I was called up last week by John Gowanlock, of Rathdrum, to pilot him up Sand Point Creek in hopes of finding trout above roily water. We left here about 10 o'clock A. M. in a light canoe with Gowanlock in the bow and pulled up about two miles where the stream narrows. I took the paddle and put the canoe slowly up stream and in a short time we were rewarded by landing a half pound trout, which was followed by several larger ones. I managed the canoe and Gowanlock did the fishing. We returned at 3.30 P. M. with our basket full of trout averaging 1½ lbs. each. Flies used were red ibis with jungle cock wing and brown palmer with yellow body. H. B.

(Reached via Chicago and Atlantic Railroad.—F. C. McDonald, G. P. A., Chicago, Ill.)

LAKEON, IND., June 27.—We have three very pretty little lakes, all in close proximity to town, containing black bass, rock bass, perch, sunfish and catfish in abundance. Occasionally we get a pike, but they are generally small. Black bass have been taken this summer weighing from 2 to 8½ lbs. I have taken three weighing, respectively, 6, 6½ and 7½ lbs. Rock bass weigh from ½ to 2 lbs., and have been caught in large numbers.

Mr. Ben Woods took 110 in about three hours' fishing and numerous others have done equally as well. Minnows are used principally as bait, and are procured with little trouble. Our genial merchant, Mr. A. C. Huggins, succeeded in taking quite a number of fine black bass trolling with luminous minnows and spoon hook. Hotel accommodations good; rates \$1 per day, \$3.50 per week. Boats, guides, etc., can be had at reasonable figures. The Eel River, noted for eel fishing, runs through the town, and also contains black bass, catfish and goggle-eyes. We have also eleven additional lakes in the township, and none of them fished to death. GAR.

(Reached via Boston and Maine R. R.—D. J. Flanders, G. P. A., Boston, Mass.)

WOLFBORO, N. H., July 4.—I see in last week's ANGLER your correspondent at Columbia, Conn., says there are enough bass, but they will not bite. About the same state of things exist in Lake Winnepesaukee. Standing on the wharf where Smith's River enters the Lake anyone can see from ten to thirty bass, weight from 2 to 5 lbs., but no kind of bait attached to a hook will tempt them.

I cannot give you an accurate account of the fishing at Lake Wentworth the past week, although I understand a large number have been caught. Will try and do so in my next. C. H.

(Reached via Wisconsin Central Ry.—James Barker, G. P. A., Milwaukee, Wis.)

PHILLIPS, WIS., June 28.—More enthusiasm than usual is evinced in fishing here this season, therefore I furnish you with a brief report. We are situated on Elk Lake, being on a chain of lakes extending about eight miles west of here, all of which are well stocked with fish. Elk Lake is fished the most on account of its being so conveniently situated to the village. In the evening a half dozen boats may

be seen rowing around the banks, and on their return you would see some of the finest specimens of mascalonge,* pike and pickerel that any fisherman would be proud to exhibit.

Mr. William Nelson seems to be our expert fisherman, as he has during the past week taken over 300 lbs. of fish, the largest being a mascalonge weighing 21½ lbs., and among these he had one black bass weighing 7 lbs.

Although Elk Lake is as good a fishing water as could be desired, it is surpassed by Long Lake, which is one of the chain lying about three miles west of here. Mr. Mellmore, of Mellmore Bros., Dorchester, Wis., has been up spending a week at this lake. He brought his camping outfit and portable boat with him. During his stay here he shipped over 400 lbs. of fish to his relatives and friends, beside what was consumed at the camp. He is of the opinion that these are the best fishing grounds in northern Wisconsin and intends making annual visits.

The bait used in fishing for mascalonge, pickerel and wall-eyed pike is the spoon-hook and perch. Black and rock bass are caught with hook baited with frog. The most favorable time for fishing here is when there is a good, stiff east wind blowing, with the water high and roiled. There are excellent hotel accommodations here, and guides can be obtained at a very nominal cost. C. M. W.

(Reached via Cleveland & Pittsburgh R. R.—C. L. Kimball, G. P. A., Cleveland, O.)

STEUBENVILLE, OHIO, July.—The fishing near this city has been extremely poor for the last three weeks, owing to the lowness of water. In the early part of June, Mr. Evans and Mr. David Johnson caught fifty-three jack salmon at the Brown's Island Dike. Rev. R. H. Grange caught twenty-three at the same place. In the second week of June Messrs. Jason Whittaker, Wm. Riley and Edward Murray caught in three days' fishing, off the foot of Brown's Island, twenty-six, twenty-nine and twenty jack salmon, respectively.

Over 100,000 young salmon were put in the Ohio River above Wheeling by the Fish Commission, also 100,000 silver eels between Pittsburgh and Cincinnati.

A fishing club composed of some of the employes of the Acme Glass House leave next week for the Tuscarawas River. FLY ROD.

HIGH WATER AND POOR SPORT.

One day last week it was agreed among a few lovers of the rod resident in the "Celestial City," as this picturesque little town is nick-named, that they would on the coming Saturday repair to Springhill, five miles above the city, and there fish with various lures and devices for the wily striped bass, several having been captured about this time last year on trolling tackle. Some spears were taken too. Start not, gentle and orthodox reader; spearing as practiced by the Indians and their white imitators on the St. John is anything but fish murder. Indeed I know few things more sportsmanlike or exciting than the wild dash and rapidly hurled spear of two expert natives, bent on transfixing a thirty-pounder before the "play" is over and the fish sink once more to the bottom, safe for the time being from the dangerous biped with his nervous arm and pitiless spear.

Our fondest hopes and expectations, however, rested on our trolling tackle and trusty rods, and it was with feelings of confidence and satisfaction that I surveyed the rapid revolutions of a beautiful new phantom minnow as I gently lowered it into the water after having carefully ad-

* We would be glad to receive a small or large specimen of the mascalonge, so called by our correspondent, for identification. Can he send us one?—EDITOR.

justed fan and swivels to my liking. Ah's me! did not that lovely but unfortunate article manage, after but a few minutes' use, to run foul of a hidden snag, and—we parted company abruptly. But to resume, after a tremendous paddle against wind and tide for five mortal miles we reached the fishing ground, only to hear from the Indians assembled there that the fish were not "playing" that afternoon, and so we found it. There was evidently no work in store for the spears that evening, but how about the rods. I regret to say these latter fared no better, which is the more strange as hundreds of bass were known to be around, and last year on the same date they took well. The only reason I can think of is that, owing to the floods this spring being so much higher than usual, the river as yet is several feet deeper than it was in June last year and also a little darker in color. I mean if possible to determine this important question, however, by fishing carefully every few days until the water is dead low. We were thus forced to return empty handed, having had a ten-mile paddle for nothing; but after all is it not the very uncertainty of the game that makes us all love the sport, and next trip may it not be our "blooming luck" to accept the congratulations of our friends on having successfully landed a forty-pounder? I have caught bass on phantom minnows, spoon baits, silver doctor, salmon flies, etc., and shall be glad of a wrinkle from any of your readers as to any other likely bait.

CHAS. A. BRAMBLE,

Deputy Crown Land Surveyor.

Frederickton, N. B., June 22.

AN ANGLER'S PARK.

An old adage says what is worth doing at all is worth doing well. Is angling the exception? Reports of the recent casting tournament show that amateurs, professionals and experts are not above criticism if we regard the appearance only of the person himself while casting. Why not have a school in which could be taught all that relates to angling? We have fine rods and reels, lines and flies, spoons and other artificial lures, as well as all natural food for fishes, and we have text books, but in almost everything else there are teachers as well.

It has seemed to me that if several specialists would arrange a course of lectures, each on a given department of angling—for casting is not all of angling—then select a suitable place where pupils could practice under the eye of the teacher, that a thousand would be glad to avail themselves of such an opportunity. Why can there not be an Angler's Park as well as a Thousand Island Park or a Point Chautauqua? The Anglers' Park for the purpose of learning all that pertains to the fishing interest? Is the thing practicable? Is it desirable?

My partner and I are fishing Cazenovia Lake about four days a week. I could give you better scores than "Zebra" does from Greenwood Lake. Think of it! "One hundred and thirty-one pickerel weighing 45 lbs.;" "136 pickerel, 48 lbs.;" "185 pickerel, 48 lbs."—less than a quarter of a pound each. We threw back sixty-four such fish one day. By chance I caught a three-pound black bass yesterday on the end of a 150-ft. line. The lake is full of both large and small-mouthed black bass.

Manitowish, N. Y., June 23.

CURRENT CASUAL CLIPPINGS.

George M. Williams received by express from Maine Wednesday evening the handsomest fish that has ever been seen in New London, Conn. It was a salmon and weighed exactly twenty-two pounds. D. C. Sage, of Fisher's Island, is the expert fisherman who pulled this finny beauty out of the Maine waters and then forwarded him to Mr. Williams. The task of landing the fish was no easy one and Mr. Sage played him about the waters for more than an hour before he got a look at the size of his captive, though he was satisfied that he was a big fellow when first the fish took hold of the bait. Mr. Sage will be accorded the championship as a fisherman, and when President Cleveland hears of the great sport the fishermen have down in Maine he will no doubt take that locality into consideration in selecting a spot to spend his vacation next summer.

The trout is the most wily fish in our waters. The least noise will frighten him for a day, and when alarmed he would starve rather than nibble at the tempting bait. The successful anglers in our streams usually provide themselves with a light pole, from twelve to fifteen feet long, with a line as nearly colorless as possible. There should be either a very light lead sinker or none at all. In fact a sinker is a disadvantage, as the fish frequently jump out of the water to take the bait. But the angler should never make the mistake of running his line up stream, for the trout knows that the food he lives on floats down stream. Minnows, earthworms, crickets, grasshoppers or a piece of red flannel will, in the hands of an expert, return equally favorable results. We have known a mountain boy to catch as many as 100 in a day with a single piece of red flannel so arranged as to hide the hook.

Fishermen are having fine sport now at the falls at Oregon City catching salmon. A party of over twenty were fishing there at one time on Thursday and there are quite a number trying their luck every day. Some catch none, but the patient fisherman who sticks to his work is generally rewarded with two or three and sometimes more fish. The fish do not seem to care for a spoon, and salmon roe is used as bait. A good many fish are hooked which cannot be landed on account of the rocks and swift water.

A very exciting scene was witnessed the other day, when four fishermen hooked salmon at the same time. Two of the lines became entangled at once and a moment after the other two fish crossed each other's path and entangled the lines to which they were attached. There was some lively pulling and hauling and jumping around for a time, and it is to be feared that some profane language was used, but fortunately all four of the salmon were safely landed and all was quiet on the Willamette.

There is also fine fishing up the Clackamas, both for salmon and mountain trout. Mr. M. A. Magone, of Oregon, City, yesterday left at the Oregonian office a genuine mountain trout, weighing two pounds, as a sample of his catch in the Clackamas. He takes a boat in a wagon and goes up the river sixteen miles and gaily launches his bark upon the stream, and floats down, fishing as he goes, and catching 'em right and left. A more enjoyable trip cannot be

imagined. There is some fine scenery on the stream and lots of fine pools and riffles, and when the fish are plenty, Great Caesar! what a lot of sport one can have on such a trip.

It don't take a New York expert with a \$500 rod to land one of the real, every day Penobscot salmon in Bangor waters. Geo. McMahon, of Brewer, bought a rod for which he paid \$1.75 and started for the dam. He had never fished for salmon in the world, but started in in good courage, and in a short time hooked one and lost him. A few minutes later he was more successful, landing a 22-pounder. One amusing thing occurred in connection with this. Mr. H. O. Wilbur, a wealthy Philadelphian, who belongs to one of the Restigouche fishing clubs, was in the city on his way to the Provinces on his annual excursion. He stopped here to get a look at the Penobscot salmon pools, and was present when McMahon landed his fish. He concluded that if fish could be taken in that manner here the Penobscot was good enough for him, and he has stopped here to try the fishing. We hope that he may be highly successful.

Anent the salmon fishing at Bangor, Me., one of our exchanges prints as follows: "In our salmon article yesterday we said that at latest accounts Mr. Bicknell, of New York, was playing a salmon. We should have said Mr. Joseph Bicknell, of South Boston, formerly of this city, and he was successful in landing the king of all the salmon landed with a fly thus far, the fish measuring thirty-nine inches in length and weighing twenty-three pounds. He played him for two hours and a half, and it was dark when the final capture was made. Another fish weighing twenty pounds was taken on Monday by Mr. George Cutler, making the total catch of the day nine. Yesterday there were four taken, one by a gentleman whose name we did not learn, weighing twenty-two pounds; one by Mr. Edward Stetson, fifteen pounds; one by Mr. F. W. Ayer, tipping the scales at nineteen pounds and a half, and one of the very finest specimens yet caught. Mr. Archibald Mitchell, of Norwich, Conn., took one of sixteen pounds weight, which gives him a total of four in his five days' fishing and makes him 'high line.'"

THE DEAD RIVER REGION, MAINE.

Comparatively it is but a few years since Tim and the Seven Ponds were by Kennedy Smith opened to anglers and the general public. Since then they have been visited by Cabinet officers, United States Senators, Governors and real gentlemen sportsmen in all walks of honorable life, by the thousands each year, and yet, by the wisdom of the State Commissioners of Fish and Game, and the watchfulness of those on the ground, the number and size of the trout is at least equal to those of eight years ago. Temple R. Fay, Esq., of this city, with a large party of "solid" men and true anglers, have very recently returned from a trip to said ponds. Mr. Fay said to-day he had never seen such fly-fishing. He and his boat-mate took in two and a half hours 50 lbs. of the most beautiful trout, of brightest colors, averaging in weight three-fourths of a pound. They were all taken with the fly, and nearly all returned to the water in good condition for future usefulness. These were

caught in Big Island Pond. Mr. Fay thought those in "L" Pond were the most gamy.

Another party of distinguished sportsmen, including Hayden Sargent, completing his seventh pilgrimage, has returned from the same Mecca, and are quite as eloquent upon the grand sport they enjoyed as the one of which I have been speaking.

Heavy rains fell early in June in northern Maine and washed the buckboard roads to these ponds. By the middle of the month they had been put in good condition.

Edgar Smith and wife are winning such laurels at the Seven Ponds, where they have charge of the cabins, as would make many a landlord and lady of "the Hub" proud. The cabins at Tim Pond are in good hands, and are under the supervision of proprietor Viles and Kennedy Smith. The cabins at Tim and Seven Ponds are well filled, but as they will accommodate but seventy-five or eighty guests at a time, it is well for parties about visiting this fly-fishing resort to engage cabins ahead. This I learn from the many who have returned from there this month. It has become not only the great private resort for Bostonians, but those of the gentle art of New York and Washington, as well, as I found when there in August, Hons., D. Ds. and LL. Ds., to say nothing of Profs., etc., etc. The great elevation of this locality above the ocean level long ago made it a resort for the invalid and the worn out business man. The bracing atmosphere and the aroma from the fir and pine tree forests have restored to health some given up by their physicians.

Boston, June 27.

CRYSTAL LAKE.

Crystal is the peer of the prettiest. All Northeastern Pennsylvania is rich in nature's adornments. She is endowed with especial munificence in the matter of lakes whose waters are the homes of the gamy bass and pickerel and whose shores offer the most winsome invitation to the tired denizens of the cities seeking summer rest and recreation.

Of them all, we repeat, Crystal Lake is the peer of the prettiest. It is located about on the border line of Lackawanna and Susquehanna Counties, five miles or so beyond Carbondale.

But the lake itself is a veritable charm. It covers between 300 and 400 acres, and is about a mile long by three-quarters of a mile wide. Its waters are all from the purest springs. There is not a swamp, and consequently not a mosquito, in the vicinity. More than twelve years ago it was stocked with bass and pickerel and to-day its depths are alive with both these species of the finny tribe, as well as many others not so gamy but equally appetizing. Nothing that is not appetizing could come from such an abiding place.

The proverbial modesty of newspaper men prohibits extended detail of the achievements of the writer as a fisherman, but it is only fair to say that, of the others, Graham caught the biggest bass, Bailey the biggest pickerel and Raeder the greatest number of fish. Jordan caught a cold, or would have done so but for the "heavenly smile" of a good Samaritan. The wives caught a becoming sunburn, which color was mellowed by the soft breezes of the lake.

The young folks caught each other. The landlord caught everybody by proving himself one of the most accommodating fellows—not the typical “genial mine host” who feeds you with soft flatteries and goes for your pocket book with the voracity of a boa constrictor, but a landlord anxious to make everybody comfortable, and not, “like a snipe, well nigh all bill.”—*B. C. J. in Leader.*

On Wednesday of last week Mr. F. A. Nones and Dr. D. Schmidt, in one boat at Gifford's, took seven weakfish and two snappers, two of the former, about 1½ lbs. each, struck at the same time; saved one and lost the other. There is a mystery about how the other one was lost which only the occupants of the boat can solve.

PUBLISHERS' DEPARTMENT.

The Angler's Score Book.—Contains blank forms (with stubs) for registry of fish caught; their species, size, weight, baits used, waters fished in, with conditions of wind, water and weather. Pocket size, paper cover, 10c.; in limp cloth, 25c. Address THE AMERICAN ANGLER, New York.

Portraits of Game Fishes, on gray tinted Bristol board, 7x9 inches, at the following prices, post-paid: Single copies, 10 cents; Fresh Water series (23), at \$2.00; Salt Water series (37), at \$3.50; Whole Series (60), at \$5.00. The list includes all the game fishes of American waters. Descriptive catalogue free. Address THE AMERICAN ANGLER, New York.

The Game Fishes of the West.—A practical Angling Treatise fully illustrated. The essays have been written by the most prominent angling authors in America, and this edition is essentially a text book for anglers and lovers of natural history. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

The Anglers' Guide to the Fishing Waters of the United States and Canada—Third Edition.—This book is invaluable to the angler and tourist. It tells how eight thousand fishing waters are reached, the species of fish therein, hotel accommodations and cost, cost of guides, boats, etc., baits used and the best months for fishing. It also contains a summary of the fish laws of the States and Territories and those of the Canadian Provinces. Handsomely bound in cloth. Price \$1.00. Address THE AMERICAN ANGLER, New York.

FOR SALE.—Split bamboo rod, extra tip; German silver mountings; length 8 ft. 6 in.; weight 10 oz. for bait or trolling; price \$13; value \$18. Also ash and lancewood rod; extra tip; German silver mountings and reel bands; length 9 ft. 8 in.; weight 12 oz.; price \$7; value \$10; entirely new; guaranteed hand made; taken for account; both rods for \$18.

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252 Broadway, New York.

[Extract.]

MACOMBE, ILL., March 15.

U. S. Cartridge Company, Lowell, Mass.—Gentlemen;— * * * The demand for your make is very great; in fact they are the only cartridge fit for rifle practice.

[Signed]

GEO. KEEFER.

The Enterprise Manufacturing Company, of Akron, Ohio, are working nearly 100 men on fishing tackle covering from a fly to a reel. Their specialty is the luminous bait, of which a correspondent writes: “It is said that the great broker of Wall Street tried the experiment with great success of dissolving phosphorus in oil and enclosing the mixture in a bottle and sinking it down with hooks suspended. The lambs, or fishes, took the bait with a gusto and of course were hauled in. How could it be otherwise? Everything he touches turns to gold (Gould.) He illuminated the waters and the deluded victims fell into his trap. I read a letter from President Cleveland, written direct to the Enterprise Company, endorsing the luminous trolls—not that he had a personal trial of them himself, but he wrote that he had placed them in the hands of those who had, and the result was reported favorable.

B.”

TIM POND AND THE SEVEN PONDS, Northern Maine.—Trout fishing and hunting resort. Smith's farmhouse and boarding camps have been thoroughly renovated and new cabins built; grounds and boats improved; all in good order for guests, reliable guides furnished; buckboard teams and good saddle horses; high mountain air; pure spring water; beautiful scenery; no malaria or hay fever; more than 2,000 feet above the sea level. Buy excursion tickets to Smith's Farm. For information, description and terms, address Julian K. Viles, proprietor, Stratton, Maine.

THE BINOCULAR TELESCOPE.

We are led to give an illustration and description of the Binocular telescope, because of its great value to the tourist class of our readers, one of whom especially has commended it to our notice. This telescope has been most favorably commented upon by some of our best known officers, both in the army and navy, as well as engineers, professors and others whose knowledge of such instruments is beyond question. The instrument is made to special models and formulæ of Messrs. Jas. W. Queen & Co., 924 Chestnut St., Philadelphia; the lenses are of the highest possible excellence, six of them being achromatic, and the result obtained, both in power and field, is really wonderful.

The glass can be brought to focus in three seconds, the method employed being extremely simple. The tubes are pulled out to their fullest extent, and the wheel A is turned slightly to prevent their returning. An index at B gives the exact position of the screw to suit the sight of the observer, and the divisions at C indicate how to set the tubes to suit the instrument to the distance between the eyes.



This arrangement will enable a person with a little practice to adjust the glass while carrying it from the case to his eyes. Officers and others need not be told how important quick adjustment is to them in making observations.

The “Queen” Binocular telescope is a long, narrow instrument, and therefore requires a case which is really neater and more portable than a field-glass of the regular form. Size No. 1 is furnished with a stout sole-leather case with strap, and is especially adapted for carrying in the pocket. Sizes Nos. 2, 3 and 4 are furnished with the above, and in addition have sun or spray-shades, which, when pulled out, protect the object-glasses from indirect rays of light and from mist in wet weather.

Size No. 1.—Height, 5¾ in.; power, 15 times. Size No. 2.—Height, 7¼ in.; power, 18 times. Size No. 3.—Height, 8½ in.; power, 25 times. Size No. 4.—Height, 10¾ in.; power, 30 times.

By power we mean the number of times an object is brought nearer to the eye than in reality.

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ISLAND POND, VT., one of the most attractive fishing points in the United States, is 152 miles from Portland, Me., and is reached via the Grand Trunk Ry. Within radii of half mile to ten miles are thirty-four streams, ponds and lakes which abound with brook and lake trout, land-locked salmon and pickerel. These waters are considered the best in the Northern States by a few knowing anglers of Boston, Portland, etc. The trout streams from half a mile to four miles distant are eleven in number and afford excellent sport during the entire season. The land-locked salmon and lake trout are found in five lakes, the latter having been caught up to thirty-two pounds. The **STEWART HOUSE**, located in the center of the above waters, is a new and commodious hotel with large airy rooms, billiard and bath rooms and a first-class livery at moderate charges. For rates and further details address W. A. Richardson, Island Pond, Vt.

MASTIGOUCHE HOUSE, COUNTY BERTHIER, PROVINCE OF QUEBEC—E. M. Copeland, Proprietor.—This sportsman's resort has just been opened to the public and is situated in one of the most beautiful and romantic spots in the Province, among the Laurentian Hills; distant east from Montreal eighty miles, and 2,000 ft. above the St. Lawrence River. The lakes, some twenty in number, are replete with trout (*S. fontinalis*) only. Plenty of caribou after September 1, opening of season. Address Mr. Copeland, at St. Gabriel de Brandon, P. Q.

GREENWOOD LAKE, N. Y.—Fuller House at Cooper Station; first lake station reached and best fishing grounds, affording two hours' more fishing than any other point; the angler's favorite resort. Terms \$2 a day. Good guides, new boats and plenty of bait. Open the year around. Special facilities for anglers, who will find themselves at home.

SOUTHWEST MIRAMICHI RIVER, New Brunswick, Canada.—The salmon fishing in the celebrated Southwest Miramichi River, for a distance of over sixteen miles of shore, including the well-known casts of Slate Island, Shove-and-be Dam'd, Two and a Half Mile, Three Mile Rapids, Little Burnt Hill, etc., estimated as equal to twenty-two rods. The shore to the width of four rods on both sides of river, with building privilege added where selected, either sold outright or leased for a term of years. Reached via Fredericton, N. B., by twenty-four hours rail from Boston. Good guides and canoes. Well adapted for a club. Price \$10,000, or annual rent for term of five years, \$600. For further particulars apply to Chas. W. Beckwith, City Clerk, Fredericton, N. B.

HOTEL WINDSOR, Rouse's Point, N. Y.—Adirondacks and Lake Champlain. The coolest, healthiest and most delightful family summer resort in Northern New York. The best fishing grounds in the State for black bass, pickerel, pike and muscalonge. Hunting, boating and driving. Mountain and water scenery from piazzas of unsurpassed beauty. For terms address Charles Beck, Rouse's Point, N. Y.

LAKE CHAMPLAIN, VERMONT.—Samson's Lake View House St. Albans Bay, Vermont, situated on the *Great Back Bay*, centrally located near the best and most extensive black bass fishing grounds of the lake, delightful summer resort for families, open June 1. Send for descriptive circular with diagram of the *Great Back Bay*. Popular rates. House first class. Address "Samson's" Lake View House, St. Alban's Bay, Vermont. Open season, June 1 to Feb. 1.

QUEBEC AND LAKE ST. JOHN RAILWAY.—This railway, now completed as far as Cedar Lake, 136 miles north of Quebec, runs through a perfectly new country, hitherto entirely inaccessible to sportsmen, and abounding in rivers and lakes stocked with fish. At Lake St. John, 184 miles from Quebec, the celebrated land-locked salmon ("*ovinaniche*") abounds. Good authorities state that this district offers the best fishing ground for trout in North America. Moose, caribou, beaver and game of all kinds abound. Two trains each way daily. J. G. Scott, Sec. and Manager, Quebec, Can.

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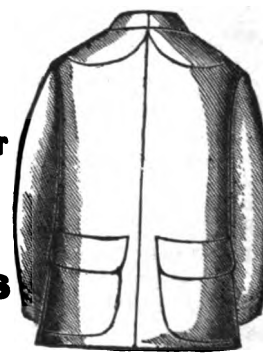
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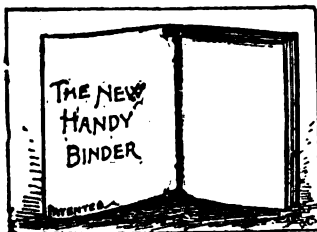
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NEW YORK—CHICAGO, JULY 16, 1887.

VOLUME XII, NUMBER 3.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by THE INTERNATIONAL NEWS COMPANY,

11 Bouverie St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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RECENT AMENDMENTS (?) TO THE FISH LAWS.

It would have been well for our sage legislators at Albany to have harkened unto the old Shakespearian axiom,

"Mar not the thing that cannot be amended,"

before they touched the fish laws of the State at their last session.

Amend means to correct, to improve, to make straight, and the following sections of Chap. 498, passed June 1, will indicate how far these peddlers of fish ordinances have gone in the direction of correction and improvement. The italics are our own:

SECTION 1. It shall be lawful to have in possession and to sell *within the city of New York, at any time, salmon trout,*

sometimes known as *lake trout*, also the *large-mouthed black bass* of North Carolina and Virginia, locally known as *chub* and *poke-perch*, sometimes known as *wall-eyed pike*, said varieties of fish to be *lawfully* taken from waters outside of this State.

§ 2. None of the provisions of laws heretofore enacted for the preservation of fish or other game within this State *shall be construed to prohibit or interfere with the possession or sale in the city of New York only*, of the above specified fish taken from waters outside of this State, provided that it be proven in any action or prosecution for such possession or sale that such fish was *lawfully* taken from waters outside of this State.

§ 3. This act shall take effect immediately.

Surely the above throws the door wide open for wholesale evasions of the law and an indiscriminate slaughter of the above named fish for market consumption, as it would be practically impossible to convict a dealer under the reading of the law.

The large-mouthed black bass, forsooth! of North Carolina and Virginia. It would puzzle the brains of all the "fish sharps" at Washington to tell the nativity of a big-mouthed black bass, or a lake trout, or a wall-eyed pike, particularly if they have been upon the ice for several days.

"Lawfully taken from waters out of the State." Who is to be the local New York interpreter and guardian of the fish laws of our sister States? Will each fish have a state, county and township stamp upon it showing the legality of its capture? Or is a moral bill of health to be attached to each invoice (two cents per pound) sent to the dealer in New York.

Why New York "only?" Does fish food interfere with the regularity of digestion among our "feller citizens" of the rural districts, or did our tender-hearted legislators feel measurable qualms and hesitate to set before the market dealers of the interior of the State so tempting a lure to singe their consciences.

The run of bluefish along the coast is very large, and they have come into the smaller bays more generally than in past seasons. It is by no means unusual for anglers of weakfish to catch more "blues" than "weakies," and the skill of those who fish with fly-rods for weakfish is put to the test in handling a 3-lb. bluefish. In Great South Bay these fish have been swarming, the illegal nets which formerly prevented them from coming into the shallow waters having been removed. These fish take shedder crab bait with a fierce onset that sets the nerves of an angler "aquiver."

It will be sad news to many to hear that Prof. Spencer F. Baird, of the United States Fish Commission, is seriously ill with heart disease at Wood's Holl.

THE FISHICIANS CLUB OUTING.

BY F. D. W. YAD, M. D.

[Continued from Page 51.]

There was a full meeting in Adam's room immediately after dinner, the first of a series, which was not entirely a business meeting. At length after a very pleasant and rather a protracted session "the Judge," who had become quite lame, limped off to bed and we all turned in.

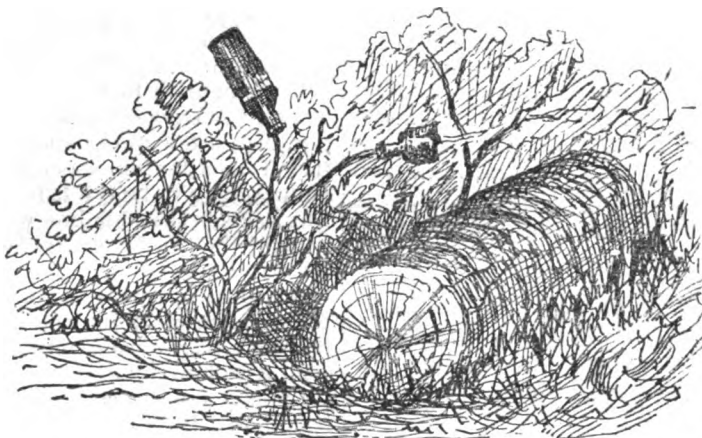
The process of rising was somewhat of a feature in the bout this season. There being four of us on one floor, at a certain hour in the morning these several figures could be seen in all stages of *dishabille*, wandering from room to room and dressing some in each, making humorous comments, provocative of repartee, and shouting out "nubs" of stories to some one in the next room.

"The Judge" was usually prompt in reporting and after "grand mounting" and "orders of the day" the parade was dismissed until after breakfast.

The present morning being Saturday, Sito and "the Judge," being members of the invalid corps, took it leis-

The next day was the Sabbath, a day ever welcome to the contemplative angler, to stiff muscles and bruised limbs. Even in the country there is on that day a sensible hush to Nature. We breakfasted at no early hour, after which, there being no religious exercises in the neighborhood, we called upon "the Judge" and spent the morning in his room. A late dinner at Mrs. L.'s, at which "the Judge" was present, and to which Sito and Drap contributed some luxuries from town, brought us far into the afternoon, and a visit to the old barn on the hill and a hamlet hard by consumed the rest of daylight. In the evening finding some hymn books in Adam's room, we passed the hours till bed time pleasantly and with profit.

On the morrow the impetuous Yad, eager for sport and holding the belief, as a part of his piscatorial platform, that the party began fishing at a needlessly late hour in the morning started for "Biscuit Brook" immediately after breakfast. The rest of the party, after going through the usual ceremony of driving the hobs, divided, Sito and Fitz driving down to the saw mill below and Adam and Drap riding up to the "Falls," better known as the Dutchman's. It was a very delightful day and the stream was in good



urely about home, fishing the "big hole" and contenting themselves with spending the day on the stream.

Adam and Charley, Drap and Yad rode in a bark wagon up the brook as far as the "Tanzy-bed," where the two latter got out, the others going considerably higher up. Drap and the Secretary, after whipping along a little while, pulled out and lunched by the roadside a-straddle of a log, after which they lighted cigars and cracked on, finding the water, which before lunch had been rather cold, much improved in temperature. Drap, whose first attempts with the fly the Secretary had witnessed, showed great improvement and took the largest fish of the day. Adam and Charley had fair sport, the latter proving to be a very eager and rapid fisherman, while the former was disgusted with the mercenary disposition shown by two young but sophisticated disciples of Izaak. The evening shades had prevailed before the whole party reported and, Mrs. L. producing her milk pans, we turned out the following catch:

Adam—Twenty-two saved, 15 thrown back; Drap—14 saved, 5 thrown back; Yad—17 saved, 24 thrown back. There is no memorandum of the count of Sito, Fitz or Charley.

condition. The Secretary having much ground to fish over, did not dally, and, accordingly, late in the afternoon he overtook Adam and Drap. The former remarked: "Yad, if you had been here a little while ago you would have given \$5!" "What for?" "Why, I was down the first time in many a year." Yad is too magnanimous to have a picture made of such an accident. The catch for the day was thus:

Adam—Twenty-three saved, fifteen thrown back; Fitz—42 saved, 6 thrown back; Drap—25 saved, 2 thrown back; Yad—46 saved, 58 thrown back; total, 217.

We were much instructed at the breakfast table by some remarks from Mrs. L. on the impertinence of her hens. Where but in the country and among the hens should we have looked for simplicity and unostentatious conduct! We knew that the practices of the ducks were irregular, but they were quacks.

Under ordinary circumstances an after breakfast cigar is pleasant, even when one's conscience tells him that he ought to be on his way down town, or when patients, representing so many fees, are beating the floor impatiently in the front office. But in the country, whither one has

flown from bepestering cares with the deliberate intention of being a vagabond, your cigar or pipe has everything its own way. It is a most delightful apology for lazyness. Its fumes, ascending to the brain, dry up the pernicious humors engendered by the stomach and quicken the memory into the remembering of many stories. It is apt to occasion a late start for the stream. Some think it is a good tonic. How many gaps it fills! How good it is to drive away insects on the stream! and how many times has the Secretary heard booming above the babbling brook: "Dr. Yad, will you have a cigar?"

To-day Adam and Fitz, at a venture, tried the East Branch, beginning at the old clothing mill and fishing as far as the school house. Sito, abandoning his sketch book, left the wagon at the first saw mill on the same stream and fished to the mill dam above Osterhout's hole. He fished slowly by necessity, and therefore thoroughly, and, when picked up in the evening, showed a very handsome creel. Drs. Drap and Yad began at the second saw mill above and pulled out at the first saw mill below. The Secretary will not forget soon the sport he had in one hole just above the bridge. The two last mentioned parties reached home first

we were soon tracing up the windings of the brook. Now loosing it among its hemlock fringes, now rattling over its dilapidated bridges and discussing with animation the possibilities of its riffes and pools. The weather was very warm and a troughful of clear, cold water suggested the propriety of "watering our horses," and here it was that "the Judge" discovered his loss. His old familiar friend for many years, his stand-by at home and his companion while traveling was missing. No wonder that "the Judge" looked grave. Thrown from his pocket by some jolting stone, it was now lying somewhere on the dusty highway exposed to the unappreciative grasp of any rustic who should come along.

An urchin was tempted by the promise of a few stamps to keep his eye upon the road and in the event of his finding the flask to report immediately in person. Sito left the party at this point, intending to fish leisurely along the bank, but whether stimulated by the voracity of the fish, or by the success of the small boy aforementioned, the old war horse forgot his lameness and wading boldly in made a regular day's sport of it. Fitz and Drap, starting at Johnson's tannery, fished to the first house above Oster-



and counted out their captives. The Secretary had no high opinion of the East Branch and secretly chuckled at the probably small baskets of the experimenters. However, there was soon heard upon the road the tramp of men heavy with spoils and flushed with triumph, and the trio appeared, Sito no longer limping, Fitz complacent and Adam defiant. The latter called for a pan and flopped into it the handsomest run that the Secretary has seen for this many a day. Catch:

Adam—Thirty-seven saved, 32 thrown back; Fitz—52 saved, 36 thrown back; Drap—17 saved, 4 thrown back; Sito? Yad—28 saved, 27 thrown back.

The evening was spent, as usual, in hearing and telling the incidents of the day and in recounting tales of a wider sweep illustrating the humorous side of life, for the "contemplative angler" may also be a laughing philosopher. The next morning "the Judge" strolled over and found everybody dressing in his neighbor's room. After a talk it was decided that the East Branch stock was above par. Accordingly, breakfast being over, John was ordered to bring up the team, and, whirling past school house and church, and through the struggling village of Dewittville

hout's dam. Adam and Yad, dipping in at a certain bridge struck the road in the evening at a dam, which for reasons to be mentioned hereafter is known as "Fitz's Dam." After the usual incidents John picked us up gradually, all but Sito, and it was not until we had nearly reached Dewittville that we spied his manly form pegging along far in advance, with that peculiar swaying of the body which indicates a heavy basket. There is no record of his catch, but the Secretary remembers that his lameness did not prevent him from hoeing several of his sounder brethren.

Count: Adam—Twenty-nine saved, 22 thrown back; Fitz—51 saved, 33 thrown back; Drap—35 saved, 10 thrown back; Yad—31 saved, 24 thrown back.

[TO BE CONTINUED.]

FOR SALE.—Split bamboo rod, extra tip; German silver mountings; length 8 ft. 6 in.; weight 10 oz. for bait or trolling; price \$13; value \$18. Also ash and lancewood rod; extra tip; German silver mountings and reel bands; length 9 ft. 8 in.; weight 12 oz.; price \$7; value \$10; entirely new; guaranteed hand made; taken for account; both rods for \$18.

At office AMERICAN ANGLER,
252 Broadway, New York.

MADAWASKA AND THE GREEN RIVER COUNTRY

BY BEN BENT AND GUY HERNE.

III.

Fulfilment mocks at Hope's foreshadowing. —Tomson.

The morning of the 8th broke clear and cloudy; that is, clear for a spell and cloudy for a spell and raining between times. Turning out of the tent at Little Forks about 3 A. M. chilly but resolute, Guy waked up all the other occupants of the camp and cross-examined them severally as to the prospects of settled weather and falling water, and they replied each after his kind. The Abenaki solemnly lit his pipe, scratched his black hair, canvassed the various signs, all unfailing and each contradicting the others, and finally reached the conclusion that he didn't know; the Algonquin after painfully working through the same process agreed with him; the French *habitant* "orated" all round the subject in a manner that was brilliant but bewildering; Commodore Jack, following the example of Br'er Rabbit and the Gar Baby, "lay low an' say nothin'"; while Ben irrelevantly announced his intention of practicing Wye casting.

Guy said sadly "why not?" and turned away exceeding sorrowful.

After breakfast we felt better and although the water was still cruelly high, and was making for the Equator through what should have been pools and eddies at a two minute gait, we broke camp and started up stream, hope still telling her flattering tale while common sense grimly pointed at the roaring freshet, the discolored water and the lowering clouds and incessantly dinned into our ears the bodeful monotone "no big fish;" or as the Indians Abenaki put it: "*La-gum-kil schoktum*." Every bend in the river revealed a new pool admirably framed by Dame Nature for the harboring of a colony of three-pound trout; but when we halted and essayed a cast or two none of them appeared, although trout ranging from a quarter to half a pound were numerous, rising to every few casts, whilst still smaller fish were simply a nuisance, taking the fly greedily and taxing our ingenuity to the utmost in the endeavor to avoid hooking them. Probably the absence of large trout in this part of the stream was to be explained by its accessibility to the *habitants* living along the banks on its lower reaches. An edifying sight that we saw later tended strongly in this direction, viz: two piratical boys in canvas bags, one suspender and an old dug out sailing merrily down the stream with a clear bushel of trout running from two ounces to three-quarters of a pound, the result of the previous day's catch, which they were taking home to salt for winter consumption; and still another craft sailing up stream manned by like enemies of the human race, with a pork barrel in the bow, which they doubtless proposed to fill level full before their return. And this goes on all the time, and when the injured lessees complain to the Provincial government about the non-enforcement of the fishing laws, that mysterious entity

"Says not a word to indicate a doubt,

But puts its thumb into its nose and spreads its fingers out."

However, we didn't come to New Brunswick to speak lightly of dignities, but to catch fish.

That day's sail with all its drawbacks was a dream of delight. The Indians skillfully poling up rapids and pad-

dling across pools, imparted to our birch barks an easy gliding motion which seemed to us, reclining on blankets and straw in the middle, to be a mode of travel worthy of fairyland, or any place where business is not and cares are not, and rest and ease and sleep are the real objects of life.

So all day long the noise of waters rolled against the sharp prows of our canoes and we alternately dozed and fished and cross-examined our Indian guides as to their lineage, legends and language. Guy made the life of his Abenaki a burden to him by calling for the constant repetition and explanation of Abenaki phrases, and clumsily trying to imitate the strange sing-song cadences of the Indian speech—without success, as a matter of course. Not content with that, he insisted on firing off his new-got lore at the Algonquin, who smiled indeed and pretended to understand; but the smile had no heart in it, and Guy's sensitive feelings were touched, and he relapsed into sombre musings on the hollow mockeries of a cold and insincere world, only to be wakened into action again by the next deep pool and the delusive hope of a big, big trout.

Towards evening our ten mile ride from the Little to the Grand Forks was accomplished and whilst camp was being pitched Ben and Guy started off with the *habitant's* son—a lad with simple manners, a bright face and a singularly frank and ingenuous smile—to try a pool on the river a little way below. A pounder and some smaller fish were the only results, until Guy struck a monster.

"Ah-h, so gros," said the French boy with eyes wide open and arms outstretched.

Ben, from the other bank, yelled volumes of angling wisdom across the river for Guy's guidance. And Guy simply hung on till the leader broke, and then he solemnly anathemized his own stupidity, the trout's depravity, the leader's rottenness, and things in general.

He was not good company in camp that night and the others heartily wished that the big trout had carried him off bodily, rather than that they should be forced to listen to his lamentations and futile speculations as to what would have happened had he done so and so, and so on.

At last Ben said: "Haven't we had enough of *post mortem* examinations? Let's turn in," which we did; Guy to dream of careering wildly down Green River in tow of a fifty-pound trout and the others to sleep like logs until morning and the ridges awakened them to the labors and sorrows of another day.

"To sit on rocks and muse o'er flood and fell" is declared by the poet not to be solitude, but a closer communion with Nature. Dare say this is so, but to sit on rocks and gaze longingly down into the depths of a grand pool in which, under the ledge of every shelving rock and in the shadow of each protecting boulder *ought* to lurk a large and hungry trout, and to feel the utter hopelessness of any attempt to get "a rise" out of it, is the apotheosis of the discouraging and tends to the evolution of expletives. Nor is the impression of gaunt despair lessened by the thought that you have traveled many weary miles and had many tell-tale holes punched in your interstate transportation and submitted to the cold indifference of sleeping-car porters and the hungry demands of commercial canoeists all for this—to find yourself on the very best pool, on the very best branch, under the very finest and most promising fall

on the best possible river, face to face with a half-mile *portage*, a stream two feet too high for good fishing, and water the color of tanbark and claret.

"Hope springs eternal in the human breast," and probably in this particular form of acrobatic exercise Hope is boss of the emotional circus, but there comes a time when even Hope's joints grow creaky, so to speak, and one by one the glittering spangles fall from her delusive "tights" into the dull sawdust ring, and the lateral curvature of lumbago twists the elasticity out of her spine and a sort of moral rheumatic gout settles in her tendon-Achilles and the sad day comes when chronic despair—due to undue exposure and irregular habits in youth—ties the once elastic and limber gymnast, Hope, quite up in a helplessly tangled bow-knot, and she has a "benefit night" and retires into privacy of domestic life and sponges on her sisters, Faith and Charity, until she gets a fresh grip, a green manager and the prospect of another "benefit."

Hope with us had got into just this fix on that bright, glittering morning and had gone off on her vacation, so we held a sort of council of war. We all quite understood that the high water had driven the big trout out of their accustomed pools and probably sent them flying to the very headwaters of the stream, but on the other hand there were the long, hard *portage*, the shortening of our vacation time and the doubtful chance of getting anything big to come up to the top of such muddy water.

When asked what we had better do that pantheistic philosopher, Guy, replied that perhaps we couldn't do better than to turn back, get a big lot of paper and write out a first-class fish lie from properly stimulated imaginations. This seemed feasible and natural, but Professor Jack ventured to remark that he didn't think we knew how to tell a fish lie that was worth reading, and selecting from a large library which he habitually carried in the pockets of his fishing coat "The Algonquin Legends," he read as follows:

"Now when they came to the beach there were only great rocks, lying here and there; but Kitpooseagunow, lifting the largest of these, put it upon his head, and it became a canoe. And picking up another it became a paddle, while a long splinter which he split from a ledge seemed to be a spear. Then Glooskap asked: 'Who shall sit in the stern and paddle, and who will take the spear?' Kitpooseagunow said: 'That will I.' So Glooskap paddled, and soon the canoe passed over a mighty whale; in all the great sea there was not his like; but he who held the spear sent it like a thunderbolt down into the waters, and as the handle rose again to sight he snatched it up, and the great fish was caught. And as Kitpooseagunow whirled it on high, the whale, roaring, touched the clouds. Then taking him from the point, the fisher tossed him into the bark as if he had been a trout. And the giants laughed; the sound of their laughter was heard all over the land of the Wabanaki."

Whereupon Guy went out and wept. He knew that even "Benjamin's Mess" could not equal that in size.

Ben was then appealed to for his opinion, or rather, to pronounce judgment; for his *dicta* are like unto the laws of the Medes and Persians, and to hear is to obey.

"Nothing extenuate nor aught set down in malice," he said, and immediately began to scale down the weight of the 3-pounder that Guy had caught the night before—and lost.

The Indians were evidently tired of it, and the Professor additionally settled it by saying that he did not think the prospect justified further effort, and so we sadly ordered the bows of our barks turned homeward and dolefully surrendered to the swift current we had been stemming for so many miles.

Here we were treated to a little touch of character. The Algonquin (who was Algonquin on one side and French on the other) expressed his satisfaction at our decision with a smile that started just above his high cheek bones and swept down his face like the opening of Venetian blinds on a dark morning, while some faint guttural rumbled around in the cavities of his leather-covered throat for an instant and was forthwith lost in laryngeal space. The *habitant* (who was French on both sides and padded with oratory and gesticulation in between) chuckled and grimaced and scattered fragments of Ollendorff and choice selections of Boniface all over the place. The long-jawed, heavy-browed, bright-eyed Abanaqui (who was Abanaqui on both sides and "Ingun" all the way through) did not permit a muscle of his graven-image face to change nor a sound to escape him; he simply, and with great accuracy, directed a small modicum of saliva from his mouth into the palm of his right hand, and with one powerful sweep of arm sent his canoe, freighted with the ponderous Guy and minor specimens of *avoirdupois*, straight around in a swirl of froth and foam, and was soon "hull down" on the return trail.

Then of a sudden harsh, unkindly nature seemed to "let up on us." The cold, bright, glittering sky became soft, warm and cloudy; moisture filled the air with mugginess and midges and in spite of high water, swift water and dark water the trout began to rise at every cast. We felt that we had never seen any waters so full of them. They were small but they were gamy and they varied enough in size (ranging from a few ounces to a plump pound) to show that the stream, the food supply and all other conditions are favorable to their growth and maintenance could circumstances be so controlled as to give them a fair chance to develop in normal fashion. So far as numbers went we were satiated, but alas! in an unlucky moment we adopted as the motto of our trip the phrase *non nulli sed multum* and we were overwhelmed with disappointment in consequence. And rightly enough, too, for anglers cannot and will not afford to go abroad for fishing which, though better, does not differ from that to be had within the confines of our own State. We are ready, we are even anxious, to be attracted to fresh fields for big game, but for big game only—a plethora of the diminutive is only a multiplication of disappointment.

Such beautiful pools as we swept through, too, for miles of the way down this lovely stream! We had but half appreciated them on the upward journey; now they came upon us as revelations throwing far into the shade anything of the sort we had ever seen before. Picture to yourself, oh reader! the beautiful Neversink and the fruitfully romantic Beaverkill (or any other two streams that may chance to be your favorite waters near home) rolled into one and then doubled in size and endowed with the abundance of thirty years ago and you have a fair idea of the Green River of Canada from the Little to the Big forks;

a ten mile sweep of ideal trout stream framed in every form of beauty born of virgin forest and wind-sculptured rock, mossy bank and o'ershadowing verdure, with no sign of the devastation of civilization along its goodly, God-made shores, nor any clang of factory bell or harsh whirr of tannery and saw-mill wheel, nor red-roofed residence of the man of oil-gotten gains, nor even the pallid white and green abomination in which the "well-to-do" farmer vegetates, nor any sound of gee-haw of oxen or wee-haw of mules nor dismal discord of church bells and school gongs, nor sickening stain of acid factory or soul-withering stench of phosphates come ever to the senses that have for brief days here been elevated to something of the purity and sensitiveness which must have been theirs when a Garden of Eden was none too good for them and a still small voice could reach the human soul, which now only answers to the reverberations of a salvation army drum.

TOO UTTERLY TOO-TOO.

Whenever I start to go fishing,
As in summer I frequently do,
The most of my time I squander in wishing
That things were not quite so too-too.

The river's too high or too low
And its waters too muddy or clear,
Or the oldest inhabitant never did know
"No such weather at this time o' year."

For the day is too dark or too bright,
Or perhaps it's too windy or quiet
For even the simplest of fishes to bite,
So that none but a lunkhead would try it.

Or it may be too hot or too cold,
Too wet or too dry, sure as fate,
Or else to console me I'm soothingly told
That I'm either too early or late.

"Now the week before last" had I come,
Or "the week after next" without doubt
I might certainly reckon on carrying home
A barrel of salmon and trout.

My flies are too large or too small
And their colors too gaudy or sober;
'Tis the same old, old tale from the spring to the fall,
Through April till late in October.

My stomach rebels and refuses
Such skilley-go-lee to take in.
These antediluvian local excuses
Are all quite too utterly thin.

GUY HERNE.

In announcing that Mr. Miles G. Nixon, of Chicago, has succeeded to the interest of Mr. Robert Douglas, the firm of R. J. Douglas & Co., boat builders, of Waukegan, Ill., also take occasion to say: "The very rapid increase, especially in our boat department, has made the details of our business too onerous for one (Mr. Robert Douglas never having taken an active part in the business), and the acquisition of one so well known in aquatic circles, East and West, as Mr. Nixon, will add greatly to our facilities for turning out work. Mr. Nixon will have personal supervision of the drafting, designing and fitting out department, and his well-known experience and ability will be a sufficient guarantee that all details will be attended to and everything go out "ship shape." The increase of our boat business has been without precedent, so rapid in fact that at times it has been almost impossible to take care of the details as promptly as we have desired."

Portraits of Game Fishes, on gray tinted Bristol board, 7x9 inches, at the following prices, post-paid: Single copies, 10 cents; Fresh Water series (23), at \$2.00; Salt Water series (37), at \$3.50; Whole Series (60), at \$5.00. The list includes all the game fishes of American waters. Descriptive catalogue free. Address THE AMERICAN ANGLER, New York.

Notes and Queries.

FISHING NOTES.

At the South Side Club, Long Island, during a recent thunder storm a pond containing a number of trout was struck by lightning and a dozen or so of the fish were instantly killed. Have any of our readers ever heard of a similar instance?

Mr. J. H. Messler has lately visited Swartswood Lake, N. J., and found the fishing there not up to the usual standard. The *Mail and Express* adds:

Mr. Messler, it will be remembered, has the record of catching two big cavalli, or "carank," fish at English Look-out, where the Pearl River empties into the Gulf, near New Orleans, last year. One of the fish weighed thirty pounds and the other forty pounds. As game fish these cavalli are considered next to tarpon. Mr. Messler preserved the two tails of the fish and they form one of the ornaments on the walls of Abbey & Imbrie's.

The proportion of tails to fishes seems to be all right—two fishes and two tails—and yet somehow the impression seems to be conveyed that there were two tails to one of 'em, which is improbable.

At St. Albans Bay, on the 17th inst., three boats on Gulf Reef after 2.30 P. M. took forty-two bass from one and a half to four and three-quarters pounds each. Wind was south; bait "hoppers," worms, flies and minnows, and on the 22d inst. Messrs. H. A. Sawyer, B. Billings and H. W. Cheney, of Rutland, are reported as having had a "good catch of bass."

A swordfish measuring thirteen feet in length and weighing 450 lbs. is reported by the *Gazette* of Greenport as having been taken off Montauk and also as having given the fishing smack a tow for about ten miles.

A Fall River fisherman recently came near losing his life by having the bottom of his boat pierced by a swordfish which he had harpooned, and which, when secured, weighed 250 lbs.

The Forked River fishing is regarded as fair for the season.

New Jersey Fish Commissioner William Wright, of Newark, recently employed William Degraw and an assistant to transport from Greenwood Lake to Lakewood, N. J., 112 black bass in one milk can. The distance is ninety miles; the mercury ranged from 78° to 94°; the fish were nine hours making the trip; five changes of cars and a short wagon drive were made; less than twenty pounds of ice were used, but the perforated tomato can was kept working most of the time. The bass were from five to eight inches long, and but eleven of them died on the trip, though the water in the can was entirely changed but once during the journey.

Before selecting your outfit of angling goods read the advertisements in THE AMERICAN ANGLER.

THUNDER STORMS, "FITZ" AND PHILOSOPHY.

It takes a great deal of courage for a man to admit that he is a first-class coward. I'm one—in a thunder storm. My grandmother was the same kind of a man. She would curl up during a thunder storm till there wasn't enough left of her to scold me for making a noise. I have known her to escape observation in a feather bed at one end of a thunder storm and crawl out at the other in a complete state of preservation without so much as making a hole in the ticking.

This reticence and tendency to shyness during magnetic disturbances is clearly hereditary. It is frequent in sensitive men and women and trout. We are not all descended from Ajax and he was probably a fraud anyhow. All the Ajaxes I ever saw defying the lightning were doing it for twelve dollars a week in a circus with very little clothing on and no thunder storm going on in the same county.

Now several of your correspondents have recently attempted to "talk small" about the trout because, as they claim, they won't "rise" in a thunder storm. No more would my grandmother rise in a thunder storm, and it's hereditary as I said before. However, there are times when a coward hasn't the courage to be afraid. I have myself said "dim" and spoken pleasantly about Bob. Ingersoll and referred to my acquaintance with several members of the Union Club right in the midst of a thunder storm, because I was too much of a coward to confess that I was half scared to death.

It must be somewhat so with trout and I will try to illustrate it by a simply told fact.

It was on the 11th day of— (that most lovely of summer months) in the year — (which you will remember as one particularly addicted to tempests) at about — o'clock in the afternoon (the very time of all others for a first-class electrical storm), when my good friend "Fitz" and I reached Hall's dam bridge on our conquering way down the Neversink river in Sullivan County of this State. It had been a grand good fishing day and "the judge" had, up to the time of reaching the bridge, taken — trout weighing in the aggregate — pounds, while I, by some freak of luck—or, as they put it at Concord, the impenetrable mystery of the unassailable—had taken just one-third more in numbers and two-sevenths more in weight. So you see the friendly contest had been warm and for once I was ahead and I wanted to stay ahead of course.

Well, just then and there came up the gol-blamedest thunder storm that was ever known at Hall's dam (during the shower I spoke of it as a "water obstruction" to avoid mistakes) and I began to cast about for some way of concealing my hereditary and protuberant cowardice.

Fortunately "Fitz" had a waterproof cape, while I had none, and he had no reverence for trouting *dicta*, while I had much; so on the pretences that I would only get wet while he would not, *could* not "catch a trout in a thunder storm," I curled myself up in as small and unattractive a heap as possible under Hall's bridge, giving myself up to the very luxury of abject cowardice, while that bold and tradition-scorning legal luminary stood out waist deep in the middle of that broad pool below and hooked a half or three-quarter pounder at about every flash and coolly creeled

them to the tune of such hill-splitting reverberations as only a first-class thunder storm in the Catskills knows how to reverberate in perfection.

When he came back and showed them to me (the thunder shower having by that time passed into the distance) I used such bold and fearless language that the Judge omitted to reflect upon, even if he had observed, my abjectness.

Now I can only account for this on the theory that the trout were afraid to be cowards when they knew that about the best angler that ever angled was taking his chances with them, as much in the middle of that thunder storm as was the word "ambiguity" in the middle of Thackeray's servant girl's letter. Isn't it so, Bro. Fitz, and haven't you sundry other legends of thundering good catches in thundering big storms stowed away in your memory-box? Nevertheless as a rule trout will not rise during a thunder storm *alleg samee*.

BEN BENT.

GROWTH OF ANGLING IN THE WEST.

In this city I find many lovers of the angling art, but few who know anything of fly-casting. They have been satisfied heretofore with the usual bait of "our daddies" for taking bass and trout, but THE AMERICAN ANGLER, which I find is taken and highly appreciated here as everywhere else, has inspired a sentiment for the finer methods of angling.

Your reports of the recent Tournament seem marvelous to them, and I am often asked: "How is it possible to throw a fly ninety-six feet? How is it done?" As I am not an expert, I can only reply: "A peculiar twist of the wrist, gentlemen—a peculiar twist." As there is no royal road to Parnassus, so there is none to the "peculiar twist," and suffice it to say, clubs are being formed here, as in other places, to discover or develop the art. So much for the benign influence of your paper, which I am gratified to find is enthusiastically appreciated by all its readers.

I find here many you might call first-class anglers of the old school, and without intending to be "discriminations," as Artemus Ward said, I mention the name of A. Hirschheimer, who, probably, is more successful than any other angler in town. He has purchased the fishing right of many inland streams near Sparta, which he stocks at his own expense, and grateful friends partake of his sports. A party of two joined him on the 4th from Dubuque, with the same number from La Crosse, and fishing one and a half days, took 596 trout averaging $\frac{1}{4}$ lb. each. He guards his preserves with jealous care and attention, but is extremely liberal in his favors. I regret that I did not make his acquaintance, as I might have gained much valuable information for your paper.

Mr. F. B. Flanders told me he had caught in Green River, a tributary of the Wisconsin running from the southeast, in the neighborhood of the above, as many as 210 trout in one day's fishing. This is his favorite resort. He stops with a farmer, who owns a large tract of land on this stream, and pays him twenty-five cents a day for the right of fishing in his waters and twenty-five cents for meals, but thinks if everybody knew of this good luck the stream would be depleted of fish in a short time.

COL.

La Crosse, Mich., July.

NOTES FROM SUNAPEE—OQUASSA TROUT.

One hundred trout, chiefly "Oquassa," were taken off my shore during the past week. The largest was killed by A. A. Martin, of Hartland, Vermont, and weighed 5½ lbs. On Friday, Mr. Martin saved five that weighed 15 lbs., and on Thursday brought to basket a fine land-lock, 4½ lbs. Good-enow, of Sudbury, during the last two weeks, secured seventy brook trout and Oquassa, his largest weighing 5 lbs. I had the pleasure on Saturday of hanging on my steel-yards a 3½-lb. Oquassa for Edgar Thorbourn, of North Weare. As the salmon anglers are deserting New Brunswick for summer fields at Bangor, so sportsmen who have long battled with the hardships of the Maine wilderness are bringing their families to cottages on "Sunapee's shore of rock," where, surrounded by all the comforts of home and the fascinations of the most beautiful scenery in New England, they basket the big fellows. Minnows are the favorite bait of the Oquassa, and when you hook one, look out for a half hour's conflict of the first magnitude. The trout now lie in fifty feet of water, bottom temperature from 44° to 45°.

In regard to your extract from Col. Hodge's report containing these sentences: "It is clearly established that they (the Oquassa trout) are not the result of the small plant of blue back-trout made in 1879," and "There is no doubt that this fish is a native of this lake." I have to say that Mr. Hodge's *ipse dixit* by no means proves his theory. So far is it from being "established," that Dr. Bean writes me that he expects to be sent this summer by the U. S. Fish Commission to Sunapee and the Rangeley lakes to investigate this very point by a close study of the living fish of all ages and sizes. I hope to have the pleasure of aiding him in his researches. Dr. Bean has recently advanced two other theories of origin, which may be interesting to your readers. The one is that the so-called Oquassa may prove to be the same species as the little Dublin Pond trout, which, perhaps, "is much more widely distributed than has been supposed;" but the Dublin Pond trout, like the blue-back in Maine, always remains *little*, and the arguments that are adverse to the one theory of origin must be equally antagonistic to the other. The second theory of Dr. Bean, which has much more probability on its side, may be briefly stated as follows: "The blue-back of Maine and the Sunapee trout of New Hampshire are land-locked forms of the *S. stagnalis* or Labrador trout, which bears the same relation to the ancestral species that the *Salmo sebago* bears to the *Salar*. This large species comes up into the streams of Labrador as soon as they are fairly free from ice, beginning toward the end of June in the south and reaching the northern portion in late July or early August. The fish spawn both in the streams and in the lakes out of which these streams flow. Not unfrequently the trout become land-locked by ice in certain lakes, the streams becoming shallow, and ice forming while there is insufficient water to carry the fish out. It remains to be shown (says Dr. Bean, June 11, 1887) by a study of the living fish whether or not the New Hampshire and the Maine forms are identical and both equivalent to *stagnalis*"—hence it is *not* "clearly established that they are dissimilar," as Mr. Hodge declares.

Mr. Hodges' statement that the Oquassa "never attempts

to enter the streams in the fall," is erroneous. Three were netted last October while attempting to ascend our brooks in company with the native trout (*Fontinalis*.) Again, the tails of some of the Oquassa are remarkably forked, and are not always square, as in the brook trout. I myself took a 3½-lb. specimen, in which this bifurcation of the caudal fin was a striking peculiarity. Oquassa may be a misnomer, but this remains to be proved; and it seems rather premature in Mr. Hodge to make such sweeping statements when the only persons qualified to decide have as yet reached no decision.

JOHN D. QUACKENBOS.

Camp Oquassa, New London, N. H.

WHY NOT ON THE REEF?

There is a limestone reef a little above this place, about two and a half miles from shore, extending along the coast a few miles, with a depth of six feet more or less, on the bed of which we can see plenty of bass, but by no bait or cunning can we induce them to take the lure.

A few years ago an iron steamer ran on this reef and was wrecked, and it became necessary to remove the hulk, which was done by dynamite. This explosion threw up any quantity of bass and other fish. Now, there is nothing startling about this, only to show that these fish abound on the reef in great quantities. We have tried time and again to catch them, and applied all known means and methods but with no result.

This reef being so far from shore, is it likely that minnows supply them bountifully with food, so that they will not take our lure? Yet we know they will bite in other places where the minnows are plenty, and why don't they bite on this reef?

A reply through the columns of your interesting paper will oblige

S.

Racine, Wis., July 21.

[NOTE.—We should be inclined to try them faithfully with large, bright-colored flies. It is not likely the explosion has given them an abnormal appetite for dynamite.—ED A. A.]

A LAW THAT WILL NOT HOLD WATER.

It shall be lawful to sell in the city of New York at any time salmon trout, also large-mouth black bass from North Carolina seas, said variety of fish to be lawfully taken from waters outside the State.

This is an abbreviation of a law passed by the Legislature of the State of New York as reported in your issue of 23d inst., and is, in short, a permit to sell such fish, no matter when or where caught. Right here I desire to raise the question whether the city of New York, or any other city, can constitutionally have assigned to it the sale of fish to the detriment and exclusion of citizens in other parts of this State. Without having examined the constitutionality of the act I shall assume it will not hold water one minute in any court and ought not to.

With others I should like to know whether I must reside in New York City to obtain exclusive legal rights?

Syracuse, N. Y., June 23.

MINNESOTA.

HOW YOUNG BASS ARE "MADE DUCKS AND DRAKES OF."

I have been fishing twice a week this month at Lake Ronkonkoma and have had only fair luck for all the water is clear and fairly free of grass.

On the 2d inst. in going around the lake I saw two black bass quite close inshore, and on closer inspection found a very large school of young ones not over three-quarters of an inch in length. I watched this family, but by the 4th it had vanished, the locality where they had been having been occupied by a flock of tame ducks, which are always to be seen on the water, so it is not difficult to guess what became of the youngsters.

I have been around the lake again and again and at different times in the day. Young bass and even the perch are conspicuous by their absence and this has set me a-thinking. Can it be the ducks? If so the flock counts about twenty-five or thirty, and if they only pouch fifty small fry daily during the sixty days that we may say elapse from the time of hatching until the young ones know enough to escape, must conclude that no less than 75,000 young fish go to feed the ducks, and as this work has been going on for some years and the mature fish are gradually being caught, the end is not far away.

Small mouths are very scarce; in fact I only know of two caught this month and those not up to a pound.

I have been told that this lake was stocked at the private expense of the property owners and that the expenditure of \$50 to \$75 more in putting in some small mouths and more food would be a good thing, but "how about the ducks?"

New York, July 18.

BROOKLYNITE.

BLACK BASS SCORE IN NEW HAMPSHIRE.

Noticing accounts of fishing at Wolfboro, N. H., in past numbers of THE ANGLER, and thinking I can discount reports previously published, I enclose the following:

Left Providence June 20th for Lake Wentworth, N. H. Fished four and one-half days; two rods—two fishermen; flies used *entirely*; most of the time single flies; grizzly king, scarlet ibis and silver doctor best; wind northeast; rained nearly all the time; largest daily catch, 140; largest bass, three pounds; many taken between one and a half and two and a half pounds. Nothing but small-mouth black bass taken. All in good condition and no worms in the back. Grand total, about 400.

Friend used eight and a half ounce ash and lancewood. I used seven and a quarter ounce eight strip split bamboo. Visited the same grounds a year ago and had about the same luck, with this exception. Most of the bass taken in 1886 were caught with live minnow.

R. C. B.

Providence, R. I., July 23.

The Anglers' Guide to the Fishing Waters of the United States and Canada—Third Edition.—This book is invaluable to the angler and tourist. It tells how eight thousand fishing waters are reached, the species of fish therein, hotel accommodations and cost, cost of guides, boats, etc., baits used and the best months for fishing. It also contains a summary of the fish laws of the States and Territories and those of the Canadian Provinces. Handsomely bound in cloth. Price \$1.00. Address THE AMERICAN ANGLER, New York.

CAPITAL SPORT IN GREAT SOUTH BAY.

Fishing in the Great South Bay continues very good, much better than it has been for several years past. Chumming on the Cinders and at the Elbow near Fire Island could not be better, the bluefish running from one and three-quarters to two and a half lbs. and boats taking from 100 to 200 per day. A party last week caught 150 weakfish with "shedders" on the Cinders, some of them running over three pounds. Yesterday, in three hours' fishing, Jas. A. Flack, Martin B. Brown and a friend had landed over 150 two-pound bluefish and were taking them in lively when we passed them. Last week the east wind made bunkers scarce for two days, but now they are plentiful and hundreds of boats are on the grounds daily and many anglers are enjoying the sport.

YANDA.

Cap Tree Island, N. Y., July 25.

ANSWERS TO CORRESPONDENTS.

NO NOTICE TAKEN OF ANONYMOUS CORRESPONDENCE.

[This department will be a permanent one, and is at the service of all who desire information on angling and cognate subjects.]

"H. P. P.," Providence, R. I.—The best artificial bait or lure for pickerel and perch are a trolling spoon, size No. 2 or 3, or an artificial minnow about No. 4, which is about two inches long. The sizes of these minnows run from one to eight inches long. A strip cut from the belly of a pickerel or perch and attached to a suitable sized hook is often effective bait.

"H. F. B.," Dayton, Ohio.—"Angle" comes from the Latin *angulus*, meaning a corner or bend—hence the Anglo Saxon angel or angl—a bend or hook as a fish hook. Secondary meaning: apparatus for catching fish with hook, line and bait.

Give me mine angle; we'll to the river there.—*Shakespeare*.

A fisher next his trembling angle bears.—*Pope*.

Hence as a third meaning a bait or artifice—to scheme for:

The hearts of all that he did angle for.—*Shakespeare*.

Angler—One who fishes with an angle.

"W. H. H. F.," Martinsburg, W. Va.—"Please give, through THE ANGLER, a description of the rod, reel and line used by the party making that wonderfully long cast in the minnow casting class at the late tournament, especially size and kind of line, also the size and kind of line used in making the longest cast with the fly."

Rod used in minnow casting class was a split bamboo about eight and a half feet long weighing nine and a half ounces. The reel, a Mills Imperial Multiplier holding at least 400 ft. of line. The line used was size "H" braided silk, paraffine finished and subsequently black leaded. Weight of sinker, half an ounce. Mr. Hawes, in making his Wye cast of 102 ft., used size "D" line, long tapered (twenty-two feet) braided silk, waterproof finish. The lines mentioned are known as "The Standard."

"W. S.," Philadelphia, Pa.—"Skittering" is commonly done from a boat, using a bamboo pole of twelve or fourteen feet long. Bait, a small frog or pork rind. Either or both hands are used and the casting done into the shallow water, generally to the shore. The moment the bait reaches the water it is given short, jerky motions and if no raise is made the bait is cast backward into the water and then forward in another cast. As the casts are short, jointed rods are often used.

"G. de F.," Lexington Ave., New York.—A 7x7 "A" tent with fly and floor piece will pack handily in a canvas bag and can, on most roads, be checked as baggage. It is the best form for general use by sportsmen when camping out. In permanent camp two can live in one easily and when needed only for night camping four persons can occupy it with perfect comfort and without crowding. Your comfort in a permanent camp will depend much on the care you take in having your tent pitched and the judgment used in selecting a desirable spot for it.

Fish Culture.

Conducted by **Seth Green.**

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

PROGRESS OF THE POUND NET.

The pound net is the natural outgrowth of the trap net, which, as I stated in a letter to *THE ANGLER* some time ago, was first introduced into this country by a Scotchman in the year 1844. The principal difference between the trap net and pound net is that the former is set and held in place by a system of anchors, while the latter is held in place by stakes. When I first became acquainted with pound nets and fished them we set them in anywhere from ten to twenty-five feet of water and when we got them out into the latter depth we considered that we were setting them very deep and really we were setting them deep for those days and took a great many fish. These nets are now set in Lake Huron at the great depth of seventy-five feet of water and having reached that depth it is difficult to tell where they will stop. The cause of their being set in such deep water is due to the constant decrease of fish and more nets are necessary to catch enough to supply the demand. If the reader can imagine a solid wall of nets commencing at the shore and gradually extending outward for from fifty to one hundred rods until they reach the maximum depth of seventy-five feet, this leader enters what is called the heart and from the heart the fish are led into the pot, which from the ingenious construction on the fly trap principal they never escape. The leader leads into the centre of the heart so that it takes all the fish which strike it coming from either direction.

The size of the mesh of the leader is three inches square, or as it is commonly called three-inch bar, or three inches from knot to knot. The heart is made two and a half inch bar and the pot is one and a half inch bar. These nets fish from the bottom to the top.

Two men were formally required to take charge of one of these nets and no more are required to look after these immense machines than formerly, owing to the improved devices for quickness and convenience in handling them. As may be inferred, as many fish are not taken at the present time in these monstrous devices as there were in the smaller nets of years ago on account of their scarcity. The fish caught are principally whitefish and pike, or pickerel as they are called on Lake Huron. If the weather is good and the fish are running to any extent the fishermen visit them every day and it is not an uncommon thing to take a ton at a lift in a twenty-four hour set and frequently many more are taken. The heaviest catch is in November, but they are caught more or less the year around, with the exception of the cold winter months.

These nets cost from about three to five hundred dollars each and usually last from three to four years. They are allowed to remain in the water continuously as late in the season as they can with safety and not be destroyed by the ice.

Sometimes where the location is favorable a row of these

nets are set out into the lake, each leader connecting with the pot of the other. I have known of seven being set thus continuously and I believe there are instances where even more have been set.

When the nets are lifted the bottoms are drawn up by ropes running through a system of sheaves attached to both the bottom and top of the stakes at the pot and the fish dipped out with scoop nets.

They are just as sure to clean out any locality of fish as they are set and four years usually completes the job.

SETH GREEN.

SHARP PROTECTION IN OHIO.

Game Warden Hofer, of Bellaire, a member of the Fish Commission, has made several important arrests for violation of the United States game laws, and the parties were fined heavily. The offenders were caught shooting fish in Captina Creek. Mr. Hofer is one of the most efficient officers on the Ohio River, and it is partly owing to his efforts that fishing is so good in the district under his jurisdiction. Many of the "hook and line" fishermen are of the opinion that there is a great deal of illegal fishing going on around Steubenville. They have suspicions that certain parties are using gill-nets. Last Thursday night the watchman on the steamer C. W. Batchelor (which is laid up at the "Pike Hole," on account of low water) said about 2 o'clock in the morning three men rowed past the boat in a skiff and had the appearance of making a draw with a seine. It was so dark that he could not tell who they were.

The Buckeye Fishing Club is camped at the foot of Brown's Island. From the amount of fish they catch the people are of the opinion that they are a fishing club in name only.

Orlin M. Sanford and wife leave this week for the mountains to make incursions on the trout family.

Steubenville, Ohio, July 18.

FLY ROD.

EELS AND BLACK BASS SPAWN.

Will you or some one of your correspondents of same opinion explain why the two rivers of all flowing into the Atlantic from the United States, viz.: the Susquehanna and Potomac, should at the same time be the best for black bass fishing and yet much abound with eels. Your paper has in its last two issues made the statement that eels are very destructive to the spawn of black bass.

Before making the plant of eels in the Ohio this year this question was raised and after a very full investigation it was found that the statement could not be proven, neither from the contents of the eels' stomachs nor in the diminution of black bass in streams well stocked with eels. Set up the proofs.

Dayton, Ohio, July 18.

PIKE.

[Our correspondent is wrong in supposing that *THE ANGLER* has "made the statement that eels are very destructive to the spawn of black bass." In the issue of July 9th we said in reply to a question wherein the black bass was not mentioned, as follows: "Our correspondent is correct. As a spawn eater the eel is 'high hook.'" Well, so he is, but he is not "high hook" enough to catch the parental

black bass asleep and when he comes sneaking around that particular piscine household "seeking whom he may devour somebody" he is quite likely to depart with the gash of a dorsal fin visible, gory and subsequently inflamed, somewhere around the region where he stows the spawn of milder mannered fish when he gets it. The black bass can doubtless protect its spawn and young against eels and as a matter of fact the young of the eels is one of the principal sources of nourishment for the black bass in the rivers our present correspondent alludes to, as well as in many other waters where young lampers are about the best bait for black bass.—Ed. A. A.]

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

HIGH WATER TABLE OF TIDES FOR THE NORTH ATLANTIC COAST.

[Collated from the United States Coast and Geodetic Survey Tables.]

JULY.

July.	Eastport, Me.	Portland, Me.	Boston, Mass.	Newport, R. I.	New London, Conn.	Sandy Hook, N. Y.	Philadelphia, Pa.	Baltimore, Md.	Washington, D. C.	Old Point Comfort, Va.	Charleston, S. C.	Savannah, Ga.	Fernandina, Fla.	Key West, Fla.
14	6.31	6.43	6.00	1.57	3.58	1.48	7.57	0.52	2.02	3.02	1.32	2.17	2.06	4.19
15	7.30	6.40	6.55	2.58	4.47	2.58	8.51	1.44	2.56	3.56	2.22	3.07	2.47	5.01
16	8.25	7.35	7.50	3.58	5.32	3.57	9.47	2.39	3.54	4.48	3.13	3.58	3.27	5.46
17	9.18	8.26	8.43	4.54	6.17	4.49	10.44	3.35	4.52	5.40	4.06	4.51	4.10	6.17
18	10.08	9.15	9.33	5.43	7.01	5.38	11.39	4.31	5.45	6.27	4.57	5.42	4.56	6.52
19	10.56	10.02	10.20	6.30	7.46	6.24	0.05	5.28	6.38	7.14	5.48	6.34	5.44	7.29
20	11.43	10.48	11.05	7.16	8.30	7.10	0.53	6.19	7.27	7.59	6.37	7.23	6.36	8.08
21	0.00	11.33	11.50	8.01	9.16	7.56	1.43	7.06	8.11	8.45	7.26	8.13	7.30	8.50
22	0.48	0.00	0.02	8.47	10.09	8.41	2.33	7.53	9.02	9.31	8.15	9.02	8.27	9.32
23	1.38	0.30	0.48	9.32	11.07	9.28	3.23	8.39	9.49	10.18	9.05	9.53	9.27	10.14
24	2.32	1.18	1.37	10.20	0.00	10.18	4.10	9.26	10.36	11.05	9.57	10.45	10.27	10.58
25	3.28	2.08	2.26	11.14	0.07	11.12	4.58	10.14	11.23	11.58	10.49	11.38	11.26	0.18
26	4.32	3.00	3.20	0.00	1.12	0.00	5.47	11.06	0.00	0.19	11.47	0.00	0.00	1.14
27	5.41	4.01	4.17	0.27	2.20	0.28	6.42	0.00	0.44	1.20	0.06	0.53	0.48	2.08
28	6.53	5.03	5.20	1.33	3.27	1.38	7.44	0.33	1.44	2.25	1.07	1.55	1.47	3.10
29	8.01	6.08	6.27	2.43	4.29	2.47	8.50	1.37	2.49	3.35	2.13	3.00	2.43	4.15
30	9.01	7.16	7.35	3.55	5.27	3.49	9.53	2.40	3.55	4.43	3.20	4.06	3.38	5.17
31	9.53	8.23	8.40	5.00	6.21	4.46	10.54	3.43	5.00	5.48	4.24	5.09	4.32	6.13

The above table gives the morning tides which are calculated on local time. To reduce to standard time subtract 32 minutes from Eastport, 19 m. from Portland, 16 m. from Boston, 15 m. from Newport, 12 m. from New London, 4 m. from Sandy Hook and 1 m. from Philadelphia. Add 6 m. to Baltimore, 8 m. to Washington, 5 m. to Old Point Comfort, 20 m. to Charleston, 36 m. to Savannah, 34 m. to Fernandina and 33 m. to Key West time.

ST. LAWRENCE RIVER FISHING.

Black bass fishing here is very fine—the best in years. The fly or live bait is used, and one party recently, in the vicinity of Wells Island, caught thirty in one hour; weight from 2 to 3½ lbs. The water is always clear. Pickerel fishing also is unusually good. Wm. Cupnall caught nineteen in three hours' fishing; weight 6 to 8 lbs. You can catch any amount of pickerel. The mascalonge are biting very well, and Mr. Dane, of the Thousand Island Park, caught two the last of June; weight 28 and 48 lbs. The 48-pounder measured five feet, and he was a beauty, very gamy, and it took three hours to land him in the boat. Mascalonge fishing will be good the first of August and last until about November 1st. One can catch any quantity of other kinds of fish, such as perch, rock bass, etc.

The hotels on the river are numerous and very fine, and there are good fishing grounds easily reached from Clayton, Ronnel Island, Grinnell's Thousand Island Park, Fair View, Fisher's Landing and Alexandria Bay.

Thousand Island Park, July 18.

R. A. J.

BLACK BASS AT LAKE HOPATCONG.

Saturday last, at 6 P. M., found Mr. F. Knowland and myself at the lock at Lake Hopatcong. There we engaged "Dick," who is employed at the hotel adjacent, and he rowed us to the Arlington Hotel. Cast a fly all the way without getting one rise. Sunday, Dick was on hand as arranged. Started out at 10 A. M.; rowed to the lock, where Dick was promised frogs; obtained twenty-two frogs. We went direct to the "River Styx," and on our way cast frogs and flies, with not a rise at either. We then anchored, and when about midway in River Styx Mr. K. caught an eel of 4 lbs. weight with a worm, and I caught several beautiful red fins, which we wanted for bait. At 1 P. M. weighed anchor and started for "Brown's Camp," where we had dinner, and noticed one feature in the tent which was new to me, and if not to all of your readers may be to some, so I will therefore describe it at reasonable length in a subsequent issue, illustrating the idea with a drawing. At 4 P. M. we started again in River Styx, I casting a frog from the reel *a la* Henshall and Mr. K. casting with his rod *a la* Greenwood Lake. I think that each cast either made there was a rise, and three several times we each at the same time were waiting for the bass to swallow the frog in order to hook him, but by so waiting the bass would take the line and tangle it either around some stump or root or in the weeds which abound in that part of the river where the bass "most do congregate." But we were using a single hook, and consequently if we struck too soon the frog would be withdrawn a mere wreck and the bass would escape. The result was that with the twenty-two frogs we landed six bass and lost twenty.

Should I try the fishing there again, I would try and rig some extra hooks in some way that the bass might be hooked the instant it took the bait.

The fishing that afternoon was the liveliest and most exciting I have yet had, either at Hopatcong or Greenwood lakes, and I hope to do even better next season. Mr. W. P. Loughry, who was with us, but in another boat, cast a dead minnow with a heavy fly-rod and landed one or two more and heavier fish than we did.

C. G. LEVISON.

Brooklyn, N. Y.

BLACK BASS AT LONG AND HIGHLAND LAKES.

The hot weather or something beyond our guessing has taken the bite out of the fish hereabouts the last week. I have managed to spend an hour or two early in the morning and just before dark, trolling persistently and chucking the bug, and with poor success. Have had better luck trolling with minnows or pieces of perch belly and got the most and largest fish that way. Have seen but one black bass with fish in him. All others seemed empty. Friday I stopped over at Long and Highland lakes, fishing the former in the forenoon with Mr. John Mead and succeeded poorly, the wind blowing a gale from the north. We tried for white perch, which have been quite plenty and of good size, the result of Mr. John Mead's planting a few years ago—a new fish in new waters. Another good nut for the opponents of fish protection to crack. After dinner, with Mr. J. C. Mead and Mr. Noyes, of Brocton, Mass., went to Highland Lake, which we found as attractive as ever, and saw

new tents, cottages, and camps dotting its shores. We took about forty bass, the largest about 2 lbs. The first we caught seemed quite lank and empty, and the last quite plump and full, indicating that they were coming round to their feed again. I never saw them more gamy and full of fight. I have heard it said by some that bass are wormy, but found no one who could say they had seen a worm. To those who think that Highland Lake or Long Lake bass are no good, I would recommend them to pack their trunks and spend a week or two with Messrs. John and J. C. Mead at Long Lake, or Mr. T. E. Mead at Highland Lake, where everything will be done to make the angler happy in doors and out. Black bass, as done up by Mrs. John Mead, rolled tightly in cloth and boiled in salted water, with a little pepper and nice fresh butter, is "a thing of beauty and a joy" as long as it lasts; go and try it. Boston has a party at Ingalls' Grove, Providence soon will have, and music will fill the air.

I find the sail on the pretty new steamer Hawthorne across Long Lake, through Songo River and across Highland Lake as full of solid charms as ever, and everything is done by Captain Gibbs to make all as comfortable as possible. To any one wishing a good, pleasant place to go to, good bass and pickerel fishing, etc., I will be pleased to talk with them and give all the information I can, and feel that they will come and see me on their return.

I find that people are thinking more of fish as an attraction that way than in years past. Let her go, even if slowly.

New York, July 18.

(Reached via New York, Lake Erie and Western R. R.—L. P. Farmer, G. P. A., New York City)

CALLICOON, N. Y.—Anglers have been here trying their luck. The catches have been good, but the best score so far was that made by Mr. J. Jay C. Daughters, of New York, who, with guide named Harrison Quick, caught forty-one black bass within four hours, averaging from 1 lb. to 2½ lbs. each. He did his fishing in the Delaware River at this point. Water rather high; weather cloudy; wind east; mercury 68°.

C. A. N.

SHOHOLA, PA., July 22.—This place is located on the line of the N. Y., L. E. & W. Ry., 106 miles from Jersey City, and is the center of the most popular trout streams and lakes in Pike County, Pa., and Sullivan County, N. Y., namely, the Shohola Creek, Painter Brook, Half Way Brook, Beaver Brook and various other streams. During the trout season scores of lovers of the rod alight from the Erie trains at this station and visit these streams, and almost invariably return home with a basketful of the speckled beauties.

A few weeks since J. Bauer, the popular proprietor of the Shohola Glen Hotel, visited one of his favorite streams (Half Way Brook) and succeeded in capturing seventeen speckled trout, which tipped the scales at 11½ lbs. J. Bauer and A. C. Decker the local guide for Nimrods, together have captured over 700 trout this season. Sportsmen from New York, Brooklyn, Binghamton, Philadelphia, Pittsburg and other points, visit these streams frequently. Highland Lake, Hagan Lake, Sand Lake, Little Lake, Long Lake, Round Lake, Little Walker and Big Walker lakes and Brink Lakes are all located within a few miles of this place and are all stocked with fish—bass, pickerel, catfish, eels, perch, etc. Good bass fishing is now found in Delaware River.

R.

GREENWOOD LAKE, N. J., July 25.—Fishing is improving and the black bass are biting good; also fine sport with

Oswego bass, trolling. Plenty of good live bait on hand. Several large catches have been made. For lack of time we cannot give you the score this week, but in next issue it will be found with other interesting facts concerning the lake.

ACME.

(Reached via Boston and Maine R. R.—D. J. Flanders, G. P. A., Boston, Mass.)

WOLFBOBO, N. H., July 25.—Bass are biting quite freely in Lake Wentworth. Following is the score:

Mr. Fitz Smith, New York—Thursday, July 21, forty-five bass. Saturday, July 23, forty-four bass—one-half day. Wm. Warden, guide. Mr. H. M. Scott, of New York, captured a 4½ lb. fish with the fly. John Jackson, guide. Mr. Levi Edwards, of Wolfboro—Saturday, July 23, eighteen bass.

Bass are reported very plentiful in the vicinity of Camp Ossipee, Lake Winnepesaukee.

C. H.

(Reached via Milwaukee & Northern R.R.—W. B. Sheardown, G. P. A., Milwaukee, Wis.)

MIDDLE INLET, Wis., July 18.—I am only a new comer here, and am unable to say much about the sportsman's chances in this region, except what old settlers tell me. As the name implies this is the middle one of three inlets into Lake Noquebay, a lake quite famous for its nice fish and as a summer resort. There seems to be an abundance of trout, dorsey, pickerel and other fishes in the streams and lakes in this vicinity awaiting the sportsman. I can tell more about our fishing advantages in my next letter after trying a hand at fishing.

C. E. U.

(Reached via Grand Trunk Ry.—Wm. Edgar, G. P. A., Montreal, Can.)

WOLFE ISLAND, July 22.—F. G. Ringold, of Cincinnati, Ohio—Albert Davis, oarsman—and Geo. H. Hill, of same place—Geo. Russel, oarsman—now staying at the Hitchcock House, have made the following catches since their arrival:

July 5—Ringold, 8 black bass; Hill, 16 black bass. July 6—Ringold, 8 black bass; Hill, 16 black bass. July 7—Ringold, 10 black bass; Hill, 20 black bass. July 8—Ringold, 13 black bass. July 9—Ringold, 16 black bass; Hill, 18 black bass. July 11—Ringold, 24 black bass; Hill, 12 black bass. July 12—Ringold, 16 black bass. July 13—Ringold, 52 black bass; Hill, 14 black bass. July 14—half day—Ringold, 28 black bass; Hill, 25 black bass. July 15—Ringold, 37 black bass; Hill, 18 black bass. July 16—Ringold, 10 black bass; Hill, 15 black bass. July 18—Ringold, 53 black bass; Hill, 16 black bass. July 19—Ringold, 37 black bass. July 20—Ringold, 36 black bass. July 21—Ringold, 28 black bass. July 22—Ringold, 50 black bass.

P. McAvoy caught during the last week a sturgeon weighing 206 lbs.

T. D.

LACOLLE, QUE., July 22.—Fishing is now good on the Richilieu River here. Several splendid catches of pickerel, black bass, pike, etc., have been made lately. Boats can be hired from Mr. James McGee, who lives on the river shore near the Richilieu Bridge. First class hotel accommodations at the Windsor, Lacolle village, about one mile from river. Good livery at Lacolle.

R.

GANANOQUE, ONT., July 23.—I have hesitated writing you until I could confidently assure you that fishing had commenced in earnest. Until the past week the river in this vicinity has been so full of shad that the chances were decidedly against the angler, and it required a great amount of patience from day to day. I am pleased to be able to report that this state of things no longer exists. The snail fish are disappearing and some excellent catches are now being made, especially bass, pike and mascalonge. Mr. C. Parston, of this town, caught a 43-lb. mascalonge last Sunday, about a mile from Gananoque. Some smaller fish have been brought in the past few days, and taking it alto-

gether the prospects are good for the remainder of the season. B. B.

(Reached via Grand Rapids and Indiana R. R.—O. L. Lockwood, G. P. A., Grand Rapids.)

MACKINAC ISLAND, MICH., July 21.—“Les Cheneaux,” the finest fishing grounds on the Great Lakes, has been visited by more enthusiastic fishermen this season than ever known before. The only complaint is too many fish. Mascalonge, black bass, pike pickerel, etc., in abundance. The islands are now easy of access, the Golden Eagle making daily trips, leaving here at 8.30 A. M. and returning at 6 P. M. The T. S. Paxton and Chas. West also give excursions three times a week—every Tuesday, Thursday and Saturday. If your fishermen friends want good sport tell them to come to Mackinac Island and I'll show them the way to Les Cheneaux. J. D.

Reached via Chicago and Atlantic Railroad.—F. C. Donald, G. P. A., Chicago, Ill.)

WILDEES, July 22.—Fishing at the present time is unusually poor, though a great many fish are caught. On last Sunday your humble servant and Mr. Teetz (hotel proprietor) were out on the river about three hours; caught seven very nice pike. Mr. Ball and family are now here. They report a good time and are catching many fish, but of a smaller class. Anglers desiring guides, boats, hotel accommodations, etc., can procure them at very reasonable rates. Come and see us—can assure you a good time.

PICKEREL.

(Reached via Chicago and Northwestern Railway—E. P. Wilson, G. P. A., Chicago, Ill.)

DEVIL'S LAKE, July 18.—I would like to say a few words to fishermen about our beautiful mountain lake. Our fishing season here has fairly commenced. We have had the pleasure of seeing many fine strings of pickerel, pike, perch and black bass taken from our lake within a few days. Among our best fishermen this season are Messrs. J. I. Revell, of the firm of Alexander H. Revell & Co.; E. Iverson, C. P. Rehl, of Chicago; J. R. Andrews, C. E. Martin and others. Fishermen, you will do well to come here for a season's sport. Beautiful place, and no mistake! Now is your time. J. M. S.

(Reached via Duluth, South Shore & Atlantic R. R.—E. W. Allen, G. P. A., Marquette, Mich.)

AU TRAIN, MICH., July 16.—H. W. Avery, of Detroit, Mich., with R. F. Brooks, of this place, caught 111 speckled trout averaging about nine inches long, in less than five hours, at a place called the Falls on Au Train River. The water is clear with rocky bottom. J. J. S.

(Reached via Michigan Central R. R.—O. Ruggles, G. P. A., Chicago, Illinois.)

DOWAGIAC, MICH., July 20.—There are within a radius of ten miles from this place several lakes that abound in bass, perch and pickerel, the most noted of which is Sister Lakes, lying about nine miles from this place. Mulligan, Orton & Drake, of Chicago, have a summer resort there, with ample accommodations for all comers. They also have about fifteen cottages for those who wish. Rates at this resort: Cottages and board, \$2.00 to \$2.50 per day; rooms and board, \$10 to \$12 per week. Indian Lake, about six miles from here, board for all, but parties must furnish their own tents. Magician Lake, about eight miles distant, parties must furnish tents and board or board with farmers. Morton Lake, Dewey Lake and some others have no accommodations for parties. Good fishing in all the above lakes. Land high and dry at all the lakes; timber for shade at nearly all of them; board at hotels in this place from \$1.50 to \$2.50 per day; good rigs to convey parties to and from the lakes; prevailing winds from the southwest.

W. H. A.

OTSEGO LAKE, MICH., July 22.—The fishing here this season thus far has been good. Some fine bass have been taken trolling with spoon in Otsego Lake. Mr. R. Green, in two hours fishing, caught thirteen bass; average weight 3 lbs. Mr. H. Joseph, while fishing for perch, caught a pickerel, weighing 4½ lbs. This was quite a surprise to many, as they are new arrivals in this lake, working their way through a small channel cut through to a branch of the Au Sable River last year. The water being so low and the channel so narrow it was not generally believed they could find their way in, but it is a settled fact now.

Last week Mr. T. Jerome, from Saginaw, Mich., spent three days on the Manistee River with good success. Brought in fifty pounds of grayling, and claims that “Camp Consumption” used half as many more, as he “fed” the family of Indian Jim (his guide.) He used brown hackle fly, and says he never had such grand sport before; has had double strikes frequently, but never three and four.

Landed three fish several times and nearly succeeded with four. This beats any past record here.

A good many trout and grayling have been taken from Sturgeon River, a stream six miles east from Vanderbilt and seventeen miles north from here. Mr. W. A. Benedict and myself spent one day there with fair success; scored forty-five grayling; used brown hackles.

Messrs. Clark Haire, H. S. McCullough and party, from Bay City, Mich., made a good score there; did not learn exact number, but they had a nice lot of grayling and trout.

A. W. C.

(Reached via Northern Pacific R. R.—Chas. S. Fee, G. P. A., St. Paul, Minn.)

HOPE, IDAHO, July 19.—Messrs. J. M. Richardson, of Minneapolis, and Eugene Fitz., of Troy, N. Y., captured one forenoon at Trestle Creek over forty trout averaging about a pound each, using flies brown hackle and jungle cock.

Mr. Griffing and party were unfortunate in striking us during mosquito time, but nevertheless enjoyed their stay. We had the pleasure of a bear hunt with Mr. G. and son, and, although fruitless, yet our chase through the brush after a young fawn was fun enough for our trip.

A party consisting of Dr. J. T. Abbott, of Manchester, Iowa; C. C. Abbott, L. E. Strong and S. K. Strong, of Hope, just returned from a trip up the lake. They report an extra fine time with the trout and brought back five pairs of deer horns and report seeing some elk.

Weather warm and pleasant; water clear. F. T. A.

TOWNSEND, MONT., July 18.—The high water which has so troubled our fishermen for the past month has now wholly subsided, leaving our fishing grounds in choicest shape for rare sport. Our small creeks, Grayson, Deep and Sixteen Mile Creeks, together with the Missouri, give sportsmen almost unlimited fields for fishing with a certainty of good catches.

All the above creeks are close to town, while the Missouri flows only a quarter of a mile west of us, and trout, grayling and whitefish abound in size and numbers sufficient to delight the heart of an angler. Since July 4th our local sportsmen have made many good scores. On Saturday last Messrs. Kipp and Mason caught eighty-three in a couple of hours within half a mile of town; while Messrs. Stafford, Watt, Hundley, Joslyn and Woodman, who went up to Cold Spring Creek, returned after three hours' fishing with 120 weighing 70 lbs. All the fishermen here use flies for trout and live bait for whitefish. We have a fine hotel where sportsmen can obtain every comfort; rates, \$2.00 per day.

“WHIP.”

LIVINGSTON, MONT., July 17.—I shall endeavor to send weekly reports to THE ANGLER from this on. The records made lately are simply immense. Many are taking advantage of the fine sport and availing themselves of the opportunities. We were shown to-day a 5½-lb. trout taken by Mr. Geo. W. Jackson, the Montana musical man of Helena,

about twenty has been made up to go to Sixteen Mile Creek on Monday and expect a big catch, as the above creek has been fished very little this season on account of continued high water from deep snow in the mountains. It might be a novelty to some of our eastern friends to sit on a snow bank August 1 while casting their fly for trout. It would at least avert the danger from heat, which seems to have been such a prolific source of death during the past month in our eastern cities.

The next six weeks will be our choicest fishing. Should any of our visitors like to vary their sport with shooting ducks and prairie chickens, they are exceptionally plentiful this season.

WHIP.

LIVINGSTON, MONT., August 2.—Record for the week:

Jas. D. Housted and D. R. Emmons, of Wyandotte, Kan., spent several days to angle in our waters in this vicinity. They took 27 lbs. last Friday and 46 lbs. on Saturday afternoon. They passed on through the Yellowstone National Park.

Mr. Reid Northrup, of St. Louis, exhibited quite a sore finger where the line had sawed it from pulling out trout at the grand Yellowstone Falls in the National Park. He says it is the best sport he ever had. Trout could be taken there as fast as one could take them with comfort. He says the Grand Cañon and Falls of the Yellowstone, with the excellent trouting cannot be beat anywhere. The National Park for scenery and fishing is *par excellence*.

Mr. Jas. T. King, of Jacksonville, Ill., with Col. Smythes, of Wichita, Kan., caught sixty-one fine trout yesterday near Brisbin. Mr. King owns one of the finest ranches in Montana and spends the major part of the summer to enjoy the fine fishing here. He never fails to bring a number of friends with him. He takes great delight in his friends and his fine fishing grounds.

C. S. H.

THOMPSON FALLS, M. T., July 31.—The fishing season has come. We have a number of fine trout streams near by. The average daily catches are not surpassed by any locality. Good hotel accommodations for sportsmen. Our vicinity for hunting is unsurpassed. Deer and bear the principal large game; grouse plenty. Guides for hunters always at hand at reasonable charges. Sportsmen's outfits kept in stock by several of our merchants—such as our locality demands—and any one visiting our advantages once need never fear of satisfaction. Any personal inquiries addressed to M. Mix will be cheerfully answered at all times.

E. M. D.

(Reached via Michigan Central R. R.—O. Ruggles, G. P. A., Chicago, Illinois.)

KALAMAZOO, MICH.—There is good bass fishing in West and Long lakes, nine miles from here. Nice trout fishing at Spring Brook, six miles distant; also at Cammel's Creek, about twelve miles.

E. B. G.

(Reached via Grand Trunk Ry.—Wm. Edgar, G. P. A., Montreal, Can.)

WOLF ISLAND, Aug. 6.—F. G. Ringgold, of Cincinnati, Albert Davis, oarsman, continues to meet with his usual success:

July 24.....	2 hours' fishing,	15 black bass.
" 25.....	1 " " "	9 "
" 26.....	3 " " "	26 "
" 27.....	3 " " "	30 "
" 28.....	5 " " "	44 "
" 29.....	4 " " "	24 "
" 30.....	3 " " "	44 "
" 31.....	3 " " "	35 "
Aug. 1.....	4 " " "	45 "
" 2.....	3 " " "	49 "
" 3.....	2 " " "	23 "
" 4.....	3 " " "	27 "

Geo. H. Heil, Cincinnati, George Russel, oarsman—

July 21.....	2 hours' fishing,	12 black bass.
" 22.....	2 " " "	15 "
" 23.....	3 " " "	40 "
" 24.....	3 " " "	20 "

July 25.....	1 hour's fishing,	10 black bass.
" 26.....	2 " " "	18 "
" 28.....	2 " " "	24 "
" 29.....	3 " " "	16 "
" 30.....	3 " " "	20 "
" 31.....	2 " " "	19 "
Aug. 1.....	3 " " "	20 "
" 2.....	4 " " "	18 "
" 3.....	1 " " "	9 "
" 4.....	2 " " "	19 "
" 5.....	2 " " "	13 "

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GREENWOOD LAKE, N. Y.—Fuller House at Cooper Station; first lake station reached and best fishing grounds, affording two hours' more fishing than any other point; the angler's favorite resort. Terms \$2 a day. Good guides, new boats and plenty of bait. Open the year around. Special facilities for anglers, who will find themselves at home.

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SOUTHWEST MIRAMICHI RIVER, New Brunswick, Canada.—The salmon fishing in the celebrated Southwest Miramichi River, for a distance of over sixteen miles of shore, including the well-known casts of Slate Island, Shove-and-be Dam'd, Two and a Half Mile, Three Mile Rapids, Little Burnt Hill, etc., estimated as equal to twenty-two rods. The shore to the width of four rods on both sides of river, with building privilege added where selected, either sold outright or leased for a term of years. Reached via Fredericton, N. B., by twenty-four hours rail from Boston. Good guides and canoes. Well adapted for a club. Price \$10,000, or annual rent for term of five years, \$600. For further particulars apply to Chas. W. Beckwith, City Clerk, Fredericton, N. B.

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LAKE CHAMPLAIN, VERMONT.—Samson's Lake View House St. Albans Bay, Vermont, situated on the Great Back Bay, centrally located near the best and most extensive black bass fishing grounds of the lake, delightful summer resort for families, open June 1. Send for descriptive circular with diagram of the Great Back Bay. Popular rates. House first class. Address "Samson's" Lake View House, St. Albans Bay, Vermont. Open season, June 1 to Feb. 1.

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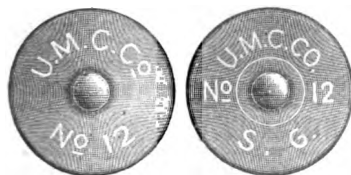
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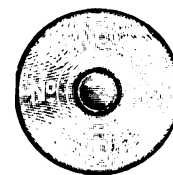
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NEW YORK—CHICAGO, SEPTEMBER 3, 1887.

VOLUME XII, NUMBER 10.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Bouverie St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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Great regret is expressed by all interested in scientific research at the unfortunate condition of Professor Charles Linden, whose mental state is such that his friends have been obliged to have him confined in the State Insane Asylum. Professor Linden went early in July to spend the summer vacation in Carleton, a French settlement on the Bay of Chaleur, New Brunswick, where, as in former years, he hoped to find physical and mental relief in the pursuit of sport with rod and gun, in both of which he was a devoted disciple. Soon, however, he began to show symptoms of acute mania, which gradually increased in violence till his confinement became a necessity and his recovery a question of serious doubt.

THE PURCHASE OF FISHING WATERS.

There is just now a strong feeling among anglers in favor of buying fishing rights and the control of or fee in fishing waters, even those which now seem to us remote and not easy to get at. This is not strange, but on the contrary is quite natural, since each year that passes narrows the field of the fisher as it narrows the acreage of the farmer, restricts the scope of the miner, limits the wanderings of the explorer, and even thins the already threadbare veil that separates the successful speculator or politician from the accomplished thief.

There are, however, some points to be taken into consideration in securing these properties which it may be of use to consider. In the first place it is not wise to buy fishing waters solely for what they *have been*, nor is it a good plan to build too surely on what *may* be done with untried streams in the direction of preserving and restocking. A somewhat careful and recent investigation of a number of waters now offered for sale or lease to individuals or clubs and a considerable amount of looking into the whole matter from many standpoints leads us to suggest to our readers the advisability of posting themselves pretty fully before selecting sites for club houses or buying river rights or leasing riparian properties with the view of future enjoyment of good sport. The fact is that really good fishing waters, even in this big country, are not now to be had for the asking any more than prairie lands worth \$100 an acre can now be "squatted" upon for \$1.25 per acre, as they could have been not so many years ago and even quite within the memory of most of us. There are perhaps few directions in which moderate means can be better expended than in the selection, purchase and improvement of angling waters in this country and in our neighboring Canadian provinces, but the average angler who enters upon such projects will find that what he does *not* know about the subject would make a large book.

The final appointment by the President of Professor G. Brown Goode as United States Commissioner of Fish and Fisheries to succeed the late Spencer F. Baird has been anticipated by many who are aware of the Professor's ample ability, experience and enthusiasm in the line of his chosen path in scientific research. It is surely one that must meet the unqualified endorsement of all whose interest in the success of the Commission and the future of our fisheries is earnest and free from selfish interests.

THE ENGLISH FISH CULTURE JOURNAL.

Fish culture in England has now an organ of its own. Under the title of the *Fish Culture Journal* the National Fish Culture Association issues quarterly a volume that is excelled by none extant of a similar description. In a series of articles and notes covering 120 pages at every issue of the publication, the piscatorial and ichthyological public are made cognizant of the fishery subjects of the hour and presented with most valuable and comprehensive information, such as would have been lost to posterity but for the records that have been thus kept. Mr. J. W. Willis-Bund, M. D., is the editor and to him great credit is due for his masterly handling of the matter placed at his disposal and for his able and interesting remarks upon trout, which stamp him as a keen observer and student of fish life. In the last number issued articles appear upon the "Cæcal Appendages of Fresh Water Trout," by Dr. Day; "Water Temperature in Relation to the Movements of Salmon," by Archibald Harper; "The Depopulation and Restocking of Northern Trout Streams," by John Watson, together with all the current information upon fish, fishing and fish culture. The journal is much appreciated in the United Kingdom, Germany and France, and doubtless it will be equally well received by all those interested in piscatorial matters here when it is known that such a journal exists.

AVERAGES OF LOCHLEVEN TROUT.

The London *World* makes the following statement:

The angling season on Lochleven which has just closed has been the most successful for many years past. The total capture of trout has been 17,892, and their total weight 17,244 lbs. Last year 11,938 trout were taken, and 16,558 in 1855. The most productive month was August with 6,688, and next came June with 3,285. The heaviest trout of the season weighed 4 lbs., and the best basket was taken by a Yorkshire angler on July 23. It contained 59 trout, which weighed 58 lbs. Lochleven, which belongs to Sir Graham Montgomery, is open to the public on very reasonable terms, and since netting was abolished it has become one of the best angling lochs in Scotland, and the trout not only afford good sport, but they are of excellent flavor.

This is a curious instance of the working of the law of averages. The trout ran as high as 4 lbs. for individual specimens, still the average of the total capture for the season, when reduced to decimals, is one pound and three one-thousandths of a pound; the average of the best basket taken was nine hundred and eighty-three one-thousandths of a pound, leaving a difference between the average of the entire season's catch and the average of the best basket taken only twenty one thousandths of a pound.

A correspondent in the Bulletin of the United States Fish Commission writes that early last spring a fisherman at Port Discovery, named Charles Lambert, met with a singular accident which resulted in his death. A starfish got entangled on his hook, and while taking it off one of the sharp little spines or prickles pierced the skin of his left hand between the fingers. He paid no attention to it, but soon it festered, his arm began to swell, blood-poisoning ensued, and the man died in the Marine Hospital.

FISHERIES OF BRITISH COLUMBIA.

Very little is known by the general angling public regarding the species which frequent this far away region covered by the "Report on the Fisheries of British Columbia for 1886," from which the following extracts are taken. They appear in an appendix to the report of Mr. Thomas Mowat, Inspector of Fisheries to the Minister of Marine and Fisheries at Ottawa.

The cultus cod or "tooshqua" (*Ophiodon elongatus*) is invariably called codfish where the true cod is scarce; about Puget Sound it is sometimes called "ling," which fish it closely resembles. It has been given the name of *Cultus cod* by the early settlers on the coast; *Cultus* in Chinook jargon meaning "little worth," they deemed it inferior to the true cod. It is also styled "bastard cod," "buffalo cod" and "blue and green cod," from the color of its flesh and skin. These particulars arise from the different kinds of food which the fish feed upon, as well as the ground they frequent, the temperature of the water and the approach to spawning season, which is usually in summer. It ranges from the Pacific coast to Bering Sea; but in the North Pacific regions it reaches a larger size and is found in greater abundance. It attains a size of five feet and a weight of from sixty to seventy pounds. The natives take them with wooden hooks used for "skil" fishing; the Victoria fishermen catch them with the common codfish hook and trawl lines.

At certain seasons of the year the flesh of these fish is firm and good; much superior to the eastern ling, and I dare say on a par with the eastern codfish. If dried in the same manner as cod, it would, I am sure, find ready markets.

These fish are very ravenous, and will readily take any bait; I found a rockfish in the stomach of one of them measuring twelve inches long and weighing about four pounds. They are plentiful in British Columbia waters, all along the Straits of Fuca, Georgia and Queen Charlotte Sounds, Hecate Straits and Dixon Entrance; they are also met with on the west coast of Vancouver and Queen Charlotte Islands, and on the outlying banks where the depth of water does not exceed eighty fathoms.

In the report on the Black cod of the North Pacific, by James G. Swan, we find that the *Anoplopoma fimbria* is known in California as candle fish, Spanish mackerel, grease fish, etc. Among the Makah Indians of Cape Flattery, Wash., as beshowe, and by the white residents at the Cape as black cod. On Queen Charlotte's Islands, British Columbia, it is called coal fish by white settlers, and by the Hydah Indians who reside on those islands it is called "skil." At Knight's Inlet, British Columbia, it is called "kwakewlth." Each tribe or locality where it is taken has a local name for it, but it is generally known as black cod.

The scientific name *Anoplopoma fimbria* has been adopted by Gill, Jordan and Gilbert and most other writers, although a specimen taken off Mount St. Elias, Alaska, was named by Pallas as *Gadus fimbria*, thus showing that its resemblance to the cod was observed by that naturalist.

The term cod is applied by fishermen and fish dealers on the North Pacific coast to a variety of fish which are not related to the genus *Gadus*, and are not found in Atlantic waters.

Although I have the credit of first introducing this fish in a marketable shape to the public, yet it has been known to the officers and employes of the Hudson Bay Company for many years, but was seldom seen on their tables. The enormous quantities of salmon, oolachan, herring, cod, halibut and other fish easily and plentifully taken made it unnecessary to incur the trouble of fishing in deep water for the black cod.

The first I saw of them was at Neah Bay (Wash.) at the entrance to Fuca Strait, in 1859. An old Indian caught a few when fishing for halibut. I procured one, which I broiled and found it equal to a No. 1 mackerel.

As the black cod are best in water from 80 to 100 fathoms the Makahs do not care to fish for them, and when by accident they catch any they ask one dollar apiece and do not care to part with them even at that price. I have occasionally seen the beshowe every summer that I have been at Neah Bay since 1859, but I never have had an opportunity to get any quantity of them till September, 1883, while at Skidegate, Queen Charlotte Islands, which I visited under instructions from Professor Spencer F. Baird. I succeeded in procuring about 100 of these fish which were called by the Hydah Indians "skil."

* * * * *

In 1853 a certain Captain Edward Brothie fitted out a vessel to go in search of the oolachan and landed at a point in Knight's Inlet where the Indians were catching them in great abundance. Arriving there, however, the Indians refused to sell, give or allow him to catch any, but said that he could have as many of the "Kwakewlth" (the name they gave the black cod) as he wished, for they were plentiful and fat; so with their assistance he filled all his barrels and started for Victoria with a full cargo. This incident is mentioned in order to show how abundant the black cod was thirty-three years ago and they are fully as abundant now.

As the Hydah Indians of British Columbia seem to be the only ones who make a business of taking the black cod or "skil" I will confine myself to a description of the method adopted by them.

The fish lines used in the capture of the black cod are made of kelp in a manner similar to that of the Makah Indians of Cape Flattery and other tribes on the northwest coast. This giant kelp *Mereocystis* (Harvey), is of the order *laminariaceæ*, and is of much larger dimensions than the *fucaeæ*, the fronds being measured by fathoms, not feet. Harvey says: The ordinary oarweed, tangle, devil's apron and sea-colander of the American shores which are familiar examples of these plants are frequently seen ten, twelve or even twenty feet in length, with immense fronds or aprons terminating their stems, but these are mediocre indeed compared with some of their coördinates in the Pacific. Some of these plants, it is said, when fully grown have a stem measuring 300 ft. in length.

These grow where the water is rapid, and have to extend to a great length before their buoyancy will permit them to reach the surface. For about two-thirds of this length from the root up the stem is the size of a halibut line. It then expands, till at the extremity it assumes a pear-shaped, hollow head, capable of holding a quart, and from which extends a tuft of upwards of fifty leaves, lanceolate

in form, each of which is from forty to fifty feet long. This slender stem is of prodigious strength, and is prepared by the natives for use as follows: The stems, being cut of a uniform length, generally fifteen to twenty-five fathoms each, are placed in running fresh water till they become bleached and all the salt is extracted. They are then stretched and partially dried in the open air; then coiled up and hung in the smoke of the lodge for a short time. Then they are wet and stretched again, when they are knotted together. This process is continued at regular intervals till the kelp stems become tough and as strong as the best hemp line of the same size. After using this line it is always carefully coiled up, but as it gets brittle if allowed to dry too much it is invariably soaked in salt water before being used.

The hooks used by the Hydah Indians for catching the "skil" or "black cod" are of a peculiar shape, unlike any fish hook I have ever seen. They are made of the knots or butts of limbs of the hemlock, cut out from old decayed logs. These knots are split into splints of the required size; then roughly shaped with a knife; then steamed and bent into shape, which shape they retain when cold. This form is adopted, so the Indians inform me, because the bottom on the west coast is foul with stones and coral formations and incrustations; steel hooks get fast and lines are subject to being lost, but this style of hooks does not get fast.

When the hook is to be used the bait is tied on with a string, which is also used to bring the two ends of the hook together and keep them in position when not baited. After the bait is well secured a piece of stick is inserted to press the ends of the hook apart. When the fish bites the bait it knocks out the stick, which floats to the surface; the two ends of the hook, springing together, close on the fish's head and hold it fast.

It is usual to tie from 75 to 100 hooks to a line at a distance of about two feet apart, and the fish are so plentiful that not unfrequently every hook will have a fish.

The sticks, which float to the surface when knocked out of the hook by the fish, serve to indicate to the Indian the sort of luck he is having at the bottom.

But although the fish may be abundant, the Indian is not always sure of securing what he has caught. His greatest annoyance is the ground shark or nurse fish, as the sailors call them, which will often eat the bodies of the black cod, leaving only the heads attached to the hooks.

Another annoyance is from a small fish called by the Hydah Indians "Neekaio-kaiung," the *Blepsias crotchotus* (Pallas); *Gan*, one of the family *Cottidae*, which steals the bait and often gets hooked. As soon as the Indian discovers this pest he quits fishing and goes to another place.

As the depth of water varies in different places it is usual to have a lot of spare lines in the canoe, which can instantly be knotted together and form a line as long as required. Sometimes 200 fathoms will be used, as the line, when fully supplied with hooks, becomes a trawl.

THE SINKER.—A most ingenious contrivance is the sinker used by the Hydah Indians in deep water fishing. This is a stone from ten to twenty pounds in weight. A small kelp line is wound round this stone and held by a bight tucked under the turns, and the end made fast to the end

of the larger line, which large line is wound round this stone and a smaller stone, which serves to bind it fast as a sort of tripping stone. The large line is secured in a similar manner as the small one. The stone is then lowered to the bottom and the line payed out. As soon as the fisherman sees enough pegs floating to warrant his pulling in the line he gathers in the slack until he feels the weight of the stone, when he gives a sudden jerk, which pulls out the bight and loosens the tripping stone, which falls out and loosens the big stone, which in turn becomes detached from the line, which is then pulled in, relieved of the weight of the sinker.

Since my return from the west coast I have had many inquiries concerning these fish, and have recommended them to many of my friends as a first-class table fish, and all who have eaten them assure me that never before have they tasted any fish equal to them. There is at this date a small steamer preparing to go into this branch of the fishing industry, and will be ready to sail from this port as soon as the weather is practicable to fish upon the coast. The party who owns the steamer has been engaged in the fishing business in Nova Scotia and Newfoundland, and is a practical fisherman. He was also interested in the Skidegate Oil Company on this coast, and then saw samples of this fish with the Indians. He seems to have every confidence of making this venture a success.

ON THE SAGINAW RIVER, MICHIGAN.

All day long on the docks along the river's front, wherever there is any show at all for fishing, there is an angler. The desire of all to become disciples of Izaak Walton pervades the atmosphere and large crowds, irrespective of sex, age, condition or color, resort to the wharfs, the mills, lumber docks and all the small craft available. Wearing a broad smile, using most any kind of rod from a scantling to a bamboo (sometimes a jointed one is visible), they spit on the hook with becoming regularity and cast their lines in the waters of the Saginaw and await further developments.

The river is very roily throughout the year from the constant floods and the log-driving on its upper tributaries and it is rather late in the summer or early in the fall before it becomes clear enough for the fish to come out of the upper waters and live in the river. The season is now approaching when the water becomes clear, and as log-rafting has almost ceased for the season, the scaly denizens of the upper waters are taking to the river, and the catches are beginning to appear respectable in size. The fish now caught are principally perch, some pickerel and now and then an eel.

As there is a great deal of interest here in the outcome of the Boganixing Creek dispute I thought I would write you about it, and you in turn interest some of your readers by informing them how fishing has been done in creeks that flow into the Saginaw River, and how the fishers are being vigorously prosecuted by the game wardens of the county. The creeks are all now open, and everybody realizes the benefit done to anglers by the fish and game warden system and all are loud in praising it.

Boganixing Creek is about five miles from the heart of

East Saginaw, a half mile from the village of Crow Island, and directly opposite the village of Melbourne. The creek is surrounded by marsh on all sides, is about 30 ft. wide at the mouth, and its course for about two and a half miles is about southwest, the source being in the spring, a vast sheet of water, which dries up in the summer and leaves only large ponds here and there connected by small "trails." In the spring of the year all the finny tribe that are native to these waters come up the river from the bay (Saginaw Bay) in search of spawning places, and great schools of them go up Boganixing Creek and rear their young in the marshes adjoining it. The city angler often enjoys himself on its waters trolling, catching mainly what are known here as grass pike, and often black bass are taken from the spoons.

There are two men (McLean and Wiggins) who string a net clear across the creek in the winter, about a half mile from its mouth, and as the shallow waters in the marshes are being frozen solid ice, the fish, in search of deep water, take to the creek and keys, working down to the river proper, that is, all those that escape the meshes of Wiggins and McLean's nets. These men do such a thriving business in the winter that they ship about a car load of fish a day, as much as all the other fishermen on the Saginaw River.

It is only within about a half year that Michigan has had game wardens appointed, and a deputy for Saginaw County has been given this case to look after, and he has been trying hard to find out whether (Wiggins and McLean claim they own the marsh adjoining) anybody has a right to fish in the manner that is done every winter in this creek. The fish laws of Michigan do not allow net fishing in the tributaries of the Saginaw, the river proper being only specified in the laws beside the great lakes and bay, Detroit and St. Clair rivers.

These men claim that the creek is their undivided property and that they will fish as they please, and although the creek has some depth of water for a considerable distance, it is not used for navigation purposes, as there is not anything on its course or near it worth going after, and is used only by duck hunters as a thoroughfare to the rice ponds at its source that are the homes of the wild duck; wild rice, weeds, "flags" and marsh grass consequently grow far out to the center of the creek along its entire length.

The method of fishing above mentioned has been followed in all the creeks along the river for years, and each case of this kind has been stopped and the fisherman punished by a fine. The outcome of the Boganixing case is watched with interest.

LON.

East Saginaw, Mich., Sept. 20.

The way in which a starfish disposes of an oyster is thus described by an English naturalist: Clapping the oyster in its rays, it brings its mouth opposite the hinge. From its mouth it pours a secretion that paralyzes the hinge muscle and causes the shells to open. It cannot, like a dogwhelk, extract its prey and put it into its stomach, so it reverses the process and puts its stomach into, or rather over, the oyster, protruding the stomach from its mouth, surrounding the oyster with its coats, digesting it, and then withdrawing its stomach into its body.

TRIBULATIONS OF A FIRST EFFORT.

Each year many good anglers pass away and become a part of the great fraternity gone before whose lines now fall in those "pleasant places," of which, if we know little now, it is at least certain that we shall sooner or later know more. We miss them much and even envy them, perchance, at times, but we realize that their places in the ranks are being constantly filled by fresh recruits, so that the angling army may surely be said to be "marching on," however sadly our old hearts beat for the worn and loved veterans who are "mouldering in the ground." Let us hail the novice and read how he describes his maiden effort of last summer in the *White Mountain Echo* thus:

Who can read that delightful book "The Compleat Angler" without being fired by a noble ambition to emulate worthy old Izaak Walton in the gentle art, and realize the pleasures of that sport of which to be without the knowledge is to confess one's self ignorant of one of the greatest enjoyments of life?

With this purpose in view I repaired, one lovely August morning, to a spot upon the banks of the Pemigewasset River about three miles below the Profile House, to make my first essay as a fisherman; with a brand new rod, magnificent indeed to behold, and a largely varied assortment of flies of the grandest and most seductive hues. To these I had added a box of worms, to tempt the appetite of those members of the finny tribe whose tastes might lead them to prefer natural to artificial bait. From my high India rubber boots, corduroy suit and close fitting cap, to the little—article which reposed snugly in my inner coat pocket—being desirous to conform in all things to the latest and most approved rules and principles of the piscatorial art—I was fully equipped at all points, as every "compleat angler" should be, to achieve a brilliant victory over the sly and wary speckled beauties, upon whom, I pleasantly anticipated, I should so sumptuously feast after my return to the hotel that evening.

At the first toss of my line I expected to see the fly descend gracefully upon the bosom of the stream, but a moment after a peculiar sensation made me somewhat painfully aware that the hook instead had firmly affixed itself to the seat of my trousers. I detached it, not without some difficulty, and gave it another throw. But this time I landed it, not upon the water, but far in among the bushes upon the opposite side of the stream. It now forcibly struck me that my line was too long; so after shortening it by six or eight feet I finally succeeded in throwing the fly upon the water, but accompanied in its descent by such a shower of twigs, leaves and bits of broken branches as must have inconspicuously put to flight any trout that might have been unsuspectingly lurking anywhere within a quarter of a mile of me. The advisability of shortening my rod, by two joints at least, now also occurred to me, for I failed to perceive the necessity of having to stand ten or twelve feet back from the water in order to adjust the length of my rod to the width of the stream, or of despoiling the tops of the trees of their leaves and branches.

For the next ten minutes I fished along without getting a bite, until all at once I came upon a deep, clear pool at

a sharp turn in the stream, beneath the projecting rock near whose bottom I felt sure there must be lurking numerous speckled beauties only waiting to be hooked. I dropped my line carefully within sight and waited patiently. Suddenly there was a rush in the water followed by an unmistakable feeling in the hand in which I tightly grasped my rod. Oh! the sensations of the man who catches his first fish! Especially if that fish happened to be a large, gamy trout, full of fight and determination, and resolved to contest every inch of water with you. But was I aware that trout did not nibble? Probably not; otherwise I should hardly have allowed the splendid fellow that darted to the surface of the stream and disappeared with the fly to go tearing about in the water like mad, at one moment diving deep down into the pool and the next frantically describing a series of somersaults in the air, and behaving, in a word, in the most insane manner. I had always understood that the correct thing in fishing was not to pull up at the first bite, but to wait till your fish got firmly hooked, and, thinking I might now secure him, I concentrated all my strength in one tremendous effort and threw my quivering victim high in air, leaving him dangling, far out of reach, from an overhanging bough.

In quiet despair I contemplated his mid-air antics. I knew if he dropped he was gone. But how to prevent so dire a catastrophe? Should I climb the tree, or wading out into the stream hold up my hat under him until such time as it should please his troutship to tumble into it? Neither of these expedients seemed pleasant nor to promise sure success. But something must be done, and quickly, or I should lose my prize. So throwing aside my rod and coat—my line had parted, leaving about three feet of it attached to the branch—I scrambled up the tree with all the agility I possessed, and had just reached the limb from which the fish dangled when the frail bough upon which my feet rested suddenly gave way under me, and I only saved myself from falling by clinging to the one just above me; leaving me for a moment or two in a predicament somewhat similar to that of the trout, oscillating wildly about in mid-air; but the violence with which I had shaken the bough caused the line to snap and the fish fell into the stream and was gone. Happy trout!

Had I been addicted to the use of strong expletives, the occasion would doubtless have justified language more forcible than elegant, but I derived some little consolation from the thought that the rascal would go about with a sore mouth for some time at least. I extricated myself, not without some effort, from my perilous position and descended the tree, leaving the remnant of my line on a branch as a melancholy warning to all other amateur disciples of old Izaak Walton who might come after me, to temper their zeal with a little discretion when landing their first trout.

The persistency with which my hook would affix itself to every old log and stump that lay in my way as I struggled through the bushes and low underwood that bordered the sides of the stream; the frequency with which the top of my rod would become entangled in the thick masses and foliage and branches above me, and my hook catch in some snag in the water and defy all my efforts to detach it; the upsetting of my bait-box into the brook as I

sprawled headlong over an old stump, when I had the pleasure of beholding swarms of lusty trout dart out from their hiding places under the banks to fatten on the feast I had somunificently provided for them; the tearing of clothes and laceration of the flesh—all these things were sufficiently exasperating, but when I abruptly sat down in the middle of the stream, then it was that the iron entered into my soul, and I launched forth into soliloquies, which if free, unlike Hamlet's, from suicidal intimations, yet breathed forth slaughter and destruction to the whole fish tribe. Then it was in the full bitterness of my spirit that I denounced old Izaak as a fraud and a base deceiver for inveigling unwary youths into the direst discomforts and perplexities, and all under the shallow pretext of affording them sport. I felt sure that had a course of trout fishing upon one of the narrowest, crookedest and shadiest of brooks been prescribed as a test of Job's patience, any subsequent experiment with boils would have been a highly unnecessary and ridiculous superfluity.

For THE AMERICAN ANGLER.

SALVELINUS FONTINALIS.

(Lines suggested by observing a companion in the Adirondack wilderness.)

DEDICATED TO PARD. L.

Where mountains lave
Their foreheads with the sky, and wrap their breast
In beryl robes, for summer's visit dressed;
Where larches wave
Harmonic music from wind-finger'd frets,
And spruce cones clash their tinkling castanets;

Where lakelets lie
Bosom'd in wildness, gemmed with lily-gleams,
And waked but seldom from their placid dreams,
Mimic the sky;
Or dimpling waves, with winsome whispers glad,
Woo fragile fern and facile lily pad;

Where tenuous curls
Of camp-fire smoke betray the huntsman's rest
In furtive nook, which balsam sprays invest;
Where lakeward purls
The mountain brook, the child of gelid springs,
And in its own wild, wanton rythm sings:

Where darkling deer—
Fawn, wistful doe and dew-lapt, antlered chief—
Knee deep in rushes, crunch the luscious leaf;
Where lorn and clear
The loon's loud laugh frights Echo from his lair,
Then hushed, leaves pulsing measures on the air;

What time the sun,
Tired of the zenith, southward drives his car
In race celestial with the fervid star;
With law-work done,
The city's fever'd work, whose toils severe
Compel and bless the play-spell of the year;

Oh, there and then,
With cunning compeers of the flexile rod,
With men who love both nature, man and God,
Brave brother-men,
Pard yanks the trout, lured by his fellow's eye,
From Dead Creek's raging billows, soon to die;
Then hies him camp-ward, on his bed to lie
Till he "mistrusts" from savory odors nigh
That John has made them either broil or fry
In sputtering spiders; then he eats. Oh, My!

ENGLISH NOTES.

BY W. AUGUST CARTER,

(Of the National Fish Culture Association, South Kensington, London.)

The only aquarium worthy of the name in this country is that at Brighton in Sussex, where, owing to the ample accommodation for specimens, the excellent condition of the sea water and the care bestowed upon the arrangements, many forms are presented to view that have not previously allowed themselves to be educated to an imprisoned existence. Much, truly, is left to be done by the company, still as far as funds will permit they endeavor to maintain the vivarium in a manner adapted to the popular taste. I visited it this week with a view to studying the habits of certain forms that cannot be seen elsewhere in England within the walls of a similar institution. Amongst these are the herring and mackerel, fish that require the most skilful handling both in capturing and maintaining. Efforts made to acclimatize these delicate forms to inland aquaria, where the sea water necessarily becomes impoverished through its constant usage owing to the vast expense of importing fresh supplies, have failed and the eye of the herring-loving public had never been gratified with the sight of this popular food form previous to its successful introduction to the Brighton vivarium.

Some fine specimens of the Sterlett from Russia are on view and seem quite as comfortable in their watery chamber as in the previous wild State. Their ferocious, dogged and savage aspect stamps them as being hardy liver and proof against the ills that flesh is heir to in the regions from which they hail. A few mudfish also grace one of the tanks, while above them the puzzled visitor is confronted with the self-same clay in which the fish were transmitted to their own satisfaction and that of the Brighton Aquarium Company. The idea of a fish existing for a long period within the confines of clay, without water, is so preposterous a notion that the visitor, uninitiated in things piscatorial, may well be struck "all of a heap" and refuse to believe any other announcement made with regard to the rest of the fish in the aquarium. And yet so it is, and the two specimens now incarcerated in the tank are doubtless longing at the present moment for a recurrence of a mud-existence, being tired of the shingle which composes the basis of their glass-house. Their movements resemble those of the conger eel closely, especially in regard to the graceful wavy motion of their tail and their preference for standing on their head and inserting it firmly in the ground or anywhere else where their acrobatic exertions may result in exhuming a secluded worm.

The sea lion is undoubtedly the chief attraction and its continual outburst, or roar, which resembles that of its terrestrial congener in the last stage of asphyxiation, is very entertaining. Like the seals the sea lion is thoroughly tame and climbs a considerable height, in spite of the great inconvenience it must suffer in so doing, to take its meals from the hands of the keeper.

The weather still favors anglers. Ever since my last communication on the break-up of the protracted drought rain has fallen every few hours, so that rivers have risen well and fish are coming up rapidly to receive death strokes from anglers striving to make up for departed hours of

watchfulness, toil and disappointment. Many of the rivers, however, are very thick and muddy and in some parts still unfishable.

A COLLECTION OF ANEMONES.

Besides the collection of ordinary fish there is a large assortment of anemones which peep forth among the rocks in every direction and add a lustre to the homes of the finny prisoners. Being contiguous to the sea the aquarium can be constantly replenished not only with specimens but also with sea water and fish food such as crustaceans. If well supported by the public I feel sure the company would go to any trouble and expense to introduce new species. The liberal manner in which they cater for the popular taste in regard to amusements and in providing creature comforts at a very cheap rate certainly deserves the high appreciation and thorough support of every one.

TROUT FISHING IN CALIFORNIA.

The Oakland (Cal.) *Tribune* says: "Among the savage hills of Siskiyou, by the banks of the roaring Klamath, there is a new summer resort which certain of the good (and bad) people of Oakland discovered not very long ago. It is known by the homely but honest name of Shovel Creek. It is not yet spoiled by the infirmities of the summer resort of advanced age. In fact, it has as yet scarcely reached years of discretion.

"The woman with fourteen trunks has not as yet invaded the land. She makes a clothes horse of herself nearer home. Nor are you pursued by a code of rules or regulations, or that sort of civilization which bids you 'Keep off the grass.' At Shovel Creek, if a man is minded to walk on the grass nobody objects, but he does it at his own peril. He is just as likely to walk into an irrigating ditch or a hot mud spring as not, for the place is full of surprises. Some of us went there for fishing, and some for rest, and some for health, and some for everything in sight.

"The fishing is really notable. George Nusbaumer, who has fished in every river and lake in California, or says he has, which is nearly the same thing, admits that it is the best fishing in the State. Here is an impetuous, tumbling brook, jumping over slippery rocks at the rate of ten miles an hour, on its way to join the black and white Klamath. Schools of lusty salmon trout run up the creek all through the summer from the big river, and as the source of supply cannot be attacked to advantage, it is not likely that the creek will be fished out.

"It is not very often that fish will bite in the Klamath, and the river is so rapid and so rocky that it can hardly be netted to advantage. The salmon trout are splendid fellows, good, honest fighters, hefty and handsome. They will run all the way from one pound to five, but the average in the middle summer months is about a pound and a half. They take the fly readily or bait, but the fly is what kills, at least in the hands of a man who has not made a life study of the stream and the holes where the big fish lurk.

"I have seen a little pool not more than six inches deep where half a dozen big fish were playing in the sun, and ever and anon the red streaks on their lusty sides would flash in the light or their tails flicker in the air and splash as they shouldered one another about in the narrow sun-shot corner. I stood down stream about twenty yards. Walter Mansfield stole up behind a rock and teased those fish with every fly in his book, almost implored them to take something; but they were obdurate and contemptuous. He prevailed on one of them to accept of a grasshopper, but he rejected the hook and it was no use."

Notes and Queries.

FISHING NOTES.

"S. W. K." writes us from Oceanic, N. J., that the fishing continues good in the North Shrewsbury. Striped bass are more abundant now than at any time for years and can be taken at one point or another near by at *any tide*. The average run is about a half pound each—none smaller—but frequently they are taken weighing a pound, and one was caught a few days since weighing six and three-quarter pounds.

Weakfish weighing from one to four pounds are caught over the bar at Somer's Point. On Thursday were captured twelve weakfish weighing three and a half pounds each.

The harbor at Norwalk, Ct., continues to be full of little bluefish and other varieties, and great also is the number of fishermen along the wharves.

Seth Green says that fishermen should drop their hooks within three feet of the bottom to catch big fish. With all due respect to Seth Green, we should advise fishermen to drop around to the market after any size of fish.—*Detroit Free Press*.

Mr. J. C. Y. Cornwall informs us that on his last day's fishing (Monday, Sept. 12th) at Northport, Ontario, in Bay of Quinté, he took twenty small-mouth black bass which weighed 52 lbs., the largest weighing 5½ lbs. Mr. Cornwall has had a successful season and we hope to hear more of it.

"C. T. H." writes us from Cleveland, Ohio, as follows: "There were three of us at Au Sable River, Michigan, and we had very fine sport. I caught thirty grayling in one day. Mr. Babbitt, Sr., said he had not seen as fine a string for the past five years. They would weigh from 8 to 16 ozs. each. I also caught one that weighed just 20 ozs.—he was an old "moss back," I can assure you. Mr. Pears, of Pittsburgh, Pa., 88; Mr. Smith, Painesville, Ohio, 103; myself, 147; total, seven days, 338. Never had so enjoyable an outing."

At Sea Beach, N. J., on Wednesday of last week, with five rods, Messrs. Ferry, Gillespie, Seeley, Commissioner Starr and Mr. Hurtzig, in 1½ hours' fishing, took 71 striped bass averaging 2½ lbs. each, running from 2 to 5 lbs. In the morning of the same day Mr. Hurtzig caught 6 bluefish of 2 to 4 lbs. each, with a metal squid casting into the surf from the shore. On Friday Mr. H. captured 28 bass during the day, and on Saturday 5 bass, on the squid.

The *Atlantic Coast Guide* learns from Bay Head, N. J., that bluefish are quite plentiful there now, and more have been caught off the beach this summer than for several years before.

TWO OF A KIND—THE MASCALONGE IN A NEW CHARACTER.

It is not usual to record failures, but I have experienced one that was very interesting to me, at least. Mascalonge are showing up very nicely in this lake (Butternut, Wis.) just now, many being taken and some lost; but the idea of landing two at a time did not occur to me until last evening.

At precisely half past five I hooked—on my No. 7 spoon with a light bamboo rod—a monster, that for fifteen minutes would not show. Then a sudden slackening, a lively reeling and the huge fellow was three or four feet in the air fifty feet away, *but not alone*; with him was a companion much larger. The butt was given him to make a second rise, or to bring him to the surface, when lo! along with him came the second fellow, racing and tearing for all he was worth. For one whole hour John and I kept up with the fellows. At times within twenty feet of the boat, when away they would glide, the drag of my Frankfort holding them well, until sixty or seventy feet had been run out, when we held strong again, and the fish both came to the surface, one only being hooked, and we could see that it was very slightly. I instructed John to load my Baker shotgun and to shoot the second fellow next time they rose, while I would attend to the first. Alas! I endeavored to make a show, when after a steady pull and a run for fifteen minutes it was all over—my spoon came up alone.

It was a sad parting, the more so for we were in front of "Firwood Cottage" and the dozen inmates and guests were eagerly watching our work from the shore.

This is the first failure I have sent to you for record, but I am unable to account for the continued presence of the second fish for so long a time, and the failure to land the first undoubtedly was caused by the interference of the second.

We had as grand an hour and a quarter with a double as one can ever expect in large mascalonge fishing. The two together would weigh, without exaggeration (for I have taken many), at least sixty pounds. My fish must have been terribly handled, for he was caught at both ends. John rowed me home in silence. H.

Butternut Lake, Wis., September 24.

[The above is apparently an illustration of conjugal, fraternal, maternal or paternal attachment or kindred tie of some character. Among birds and other animals such cases are not rare, but it is the first instance on record, to our knowledge, of devotion to their kind among fishes, which have never been known to immolate themselves upon the altar of kinship or friendship.

It would blunt the point of a beautiful moral to hint, however, that the second and unhooked masky was intent upon securing the edible prize which he thought was in the jaws of his hooked brother. Rather let us look upon the incident as admirably illustrating a phase of fish life wherein the emotional nature of old "Moss Back" came into full play.—Ed.]

The Fishes of the East Florida Coast.—Contains a description of the different fishes caught on the Florida Coast, with their habits, modes of capture, tackle, baits, etc. Eleven illustrations. Pamphlet form. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

THE ROCKY MOUNTAIN WHITEFISH.

Mr. Fish Commissioner Otto Gramm writes us as follows from Laramie, Wyoming: "I take the liberty to send you to-day a fish caught in Snake River and its tributaries flowing in Colorado and Wyoming. The residents on the stream tell me that they come up the river in schools in the fall and inhabit the same stream as the brook trout. When they come up the trout retire down the stream, and in the spring the trout come back and the other fish go down. They are mostly caught in the evening and then take a fly very nicely. They are called here grayling, but I do not see any resemblance to the grayling. What are they? Would you kindly reply?"

The fish referred to by Mr. Gramm came safely and in good edible condition. It is the Rocky Mountain whitefish or mountain herring—*Coregonus williamsoni*. The misnomer "grayling" also prevails for this fish on the Yellowstone River at Livingston, Mont., where it abounds and rises readily to the fly at all hours of the day. We transferred the specimen sent us to our piscine epicure, Mr. J. D. Jackson, of the "typos" department, who reports as follows: "Soaked all night in water, broiled in the morning, served with butter dressing, and it proved very palatable, resembling in taste the larger Labrador herring when fresh."

THE BASS OF PELEE ISLAND.

A friend and correspondent of THE ANGLER writes of the Pelee Island black bass fishing thus: "Our 'fall season' at the club-house opens October 1st, and old residents of the island write me that all indications point to the best fishing for many years. I have an idea from your former letters that some one has bet that the black bass taken at and about Pelee are *not* small-mouths. If so, and your man wants to bet more, he can get all he wants—\$5,000 or more. * * * Some of the members of the Club are General Sheridan, Judge Gresham, Robert T. Lincoln, Marshall Field, Geo. M. Pullman and John McGinnis, Jr."

THE GRAYLING OF MICHIGAN WATERS.

We are indebted to Mr. C. T. Hasbrouck, of Cleveland, Ohio, for the following interesting notes on the grayling of the Manistee and Au Sable Rivers:

"The Manistee grayling differs from the Au Sable fish in several points in structure and in habits, at least when hooked. The Manistee is a jumper and the Au Sable is a low, deep, hard puller, with slightly different tactics to free himself than the Manistee grayling."

The method adopted by the Hyda Indians, according to the "British Columbia Fisheries Report," for cod fishing is very simple and inexpensive. Their lines are made of a kind of seaweed, which is abundant on the coast. Dried and knotted together, it makes a line superior to the English hemp; is more durable and not so apt to tangle in running out. Trawl fishing, as practiced on the Grand Banks, would be unsuitable, owing to the depth of water, the strong tides and the coral bottom. The objections to trawl fishing apply equally to seines and gill-nets. Bait is easily procured all the year round. When the runs of herring and eulachons are over, there are the halibut, octopus, trout, clams and mussels.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

THAT SMALL BREED OF BASS.

I have read Mr. "D. T. B.'s" communication concerning black bass in the issue of *THE ANGLER* of September 17th and am very glad to see that he has a theory in regard to the matter. He may be right, but the probability is that he is as far from the truth as he claims I am. "C." stated in his letter of inquiry that the lake was stocked with black bass a number of years ago and from this I infer that black bass are not natives in the lake now and if this is a fact I would suggest that the interested parties ascertain where the parent fish came from. If they were of diminutive size and of a "small breed" then it would be in order for me to admit that he was correct.

I am well aware of the fact that the same species of fish in different waters present different characteristics, so much so that they can be told quite readily by fishermen who are familiar with them; as, for instance, we have stocked a great many lakes in New York State with salmon trout, the spawn of which was obtained in the Great Lakes, and anglers who are accustomed to them can tell the native trout from those that were planted about as readily as they can distinguish their friends, so that there is an individuality about the breed of fish in different waters without doubt.

Now there is another point in regard to the growth of the lake trout which we have planted in different waters and that is that the same breed of fish do not grow as large in some waters as in others. In Hemlock Lake in this State, where a great many trout have been planted during the last sixteen or eighteen years, it is not a common thing to take one weighing as much as four pounds, while in Lake Keuka, another lake which has been well stocked for a like period, nine and ten-pound fish of the same identical breed are far more plentiful than four-pounders in Hemlock. In this case I am positive that it is the food supply that causes the difference in growth, but in any of our inland lakes it is a very rare thing to find a lake trout which approaches in size the largest of those found in the Great Lakes.

If I had been consulted concerning the advisability of stocking such a lake as I understand Heart Lake to be I never should have recommended the small-mouthed black bass, as it does not possess the qualifications which my experience has taught me are requisite for this fish to thrive best, and if it is not the food then the lake is otherwise certainly not suitable.

I might take some exceptions to "D. T. B.'s" comparison of a Shetland pony and a Percheron horse, for of course horses are horses and fish are fish, and no one would ever expect a speckled trout or black bass to equal a sturgeon in growth, no matter what the conditions might be. If Mr. "D. T. B." would kindly send me a few specimens of the Heart Lake bass I should be pleased to examine them, which might help to solve the problem.

SETH GREEN.

THE FOOD OF THE SALMON.

Mr. W. Anderson Smith, in No. 1, Vol. 1 (January 15, 1887), of the *Journal of the National Fish Culture Association of England* writes to the effect that most fishermen and naturalists know that salmon, while coming up the rivers of Great Britain for the purpose of spawning, do not as a rule seem to take food, while it is well known that the spawned fish are very voracious and do great injury among the young salmonoids which are struggling for existence. It would seem, therefore, that for such large and strong fish to recover after their return to the sea from their period of fasting and exertion they must reach feeding grounds of exceptional richness and extent. The *Salmonidae* cannot, as a class, be called insectivorous fish, like the herring or mackerel, and their onslaughts on the floating life of the sea of an invertebrate class are only makeshifts, in the absence of the more important food to which they must in reality mainly look. Now, careful observation and the gathering of facts indicate clearly that herring and their young are the food of salmon at sea. One of the most experienced fish curers of Lewis (the largest island of the Hebrides) declares that in his experience salmon at sea feed upon young herring. MacLaine, of Lochbuy (Isle of Mull), says that once off Colonsay (one of the Hebrides) he came upon large fish leaping out of the water in their eagerness to seize their prey, and that these were found to be salmon chasing herring. On the west of Mull, salmon taken in the fresh water direct from the sea were found to be full to the mouth with young herring. Mr. John Anderson, of Denham Green (Edinburgh), after sixty years' experience in an extensive fish trade, says that the principal food of salmon is the herring and its fry, and that frequently several herring and a score of fry are found in a salmon's stomach along with crustaceans. These and many other observations go to corroborate the suggestion that herring are the great ocean food-supply of the salmon, and lead the *Salmonidae* to follow them to their haunts. I is certain, however, that a voracious fish will not confine itself to any single species of food; so it seems that salmon feed on sea-mice (*Aphrodite*) and various kinds of crustaceans.

Sea trout are somewhat different in character from the salmon. They feed voraciously, not only when coming in shore, but even in fresh water. These fish also are frequently taken with their stomachs full of young herring, while they are fond of sand-eels. It is also known that they eat cephalopods freely, as well as crustaceans and annelids.

LAKE VIEW HOUSE, Green Lake, Walworth County, Wis.—The four lakes furnish the best fishing for pickerel, pike, bass and large perch in the State. Fine brook trout fishing within six miles. Sportsman's Paradise. Plenty of live bait. Seven pickerel caught in front of the hotel in one and a half hours in fifty feet of water. Smallest fourteen and a quarter pounds; largest twenty-one pounds. Perch by the bushel. Forty miles west of Milwaukee, thirty-five from Racine via C., M. & St. P. R. R., five miles from Troy Centre station, seven miles from Elkhorn. Orders for conveying guests from the stations will receive prompt attention, or livery can be procured at the stations at low rates for the hotel. Terms \$1 to \$1.50 per day during the balance of the season. Capt. A. W. Grippen, proprietor. C. J. Paige, manager, P. O. Adams, Walworth County, Wis.

A FINE SHOWING BY WISCONSIN.

The Commissioners of Fisheries for Wisconsin held their annual meeting at Madison on the 13th ult. The Hon. Philo Dunning was reelected president and C. L. Valentine secretary and treasurer. The members of the present board are: Philo Dunning, of Madison; C. L. Valentine, of Janesville; Mark Douglas, of Melrose; A. V. H. Carpenter, of Milwaukee; Calvert Spensley, of Mineral Point, and E. S. Miner, of Sturgeon Bay. Jas. Nevin, of Madison, was reappointed superintendent for 1887-'88.

The annual report of Superintendent Nevin shows a gratifying result. The numbers and kinds of fry distributed and the number of applications filled in 1887, as compared with 1886, are as follows:

Kind.	1887.		1886.	
	No. of Fry.	No. of Appl'ns.	No. of Fry.	No. of Appl'ns.
Brook trout.....	2,930,000	212	2,275,000	156
Mountain trout ..	1,350,000	119	630,000	54
Wall-eyed pike....	8,800,000	67	3,450,000	23
Mackinaw trout...	500,000	..	.....	..
Whitefish.....	31,500,000	..	33,210,000	..
Total.....	45,080,000	398	39,565,000	233

In addition to the above there were distributed in 1886 6,040 carp to 160 applicants and in 1887, to date, 1,495 to twenty-six applicants, and there is now on file some 175 applications, which will be filled during October and November. Superintendent Nevin reports that the supply of fry was not equal to the demand, as he was obliged to keep over until next year's distribution the following: Eighty-two applications for brook trout, forty-five for mountain trout and twenty-six for wall-eyed pike. In speaking of the stock of breeders (brook trout) at the Madison Hatchery the superintendent says:

"Ever since the hatchery was first commenced the same breeders have been used, their numbers being added to annually from our own hatch. Now this continual breeding from the same stock or families must have a tendency to deteriorate the quality of the fish the same as with animals and any disease in the parent fish must, no doubt, be inherited by the fry to a greater or less extent. The suggestion I would beg to make is that during the coming fall we get a stock of eggs from 'wild' trout in some of the streams in the northern part of the State. This can be done at very little expense and by hatching them here and raising them in our own ponds in the course of a couple of years we could infuse new and better blood into our breeding stock."

The inland lakes of our State have not shown as good results as they might from the planting of lake trout fry, but Mr. Nevin gives the following as the reason:

"My predecessors, when hatching lake trout, would send from ten to forty thousand fry to stock a large body of water. This was but a drop in a bucket in comparison to the numbers that should have been planted. The people of the State of Wisconsin are a liberal people and have proved themselves willing to supply the necessary funds to carry on the work of artificial propagation of fish and we know that we have as fine a lot of inland lakes as there is in any State in the Union, and the people demand fry for these lakes, and the railroads are willing to transport the

fry free of charge, consequently I would advise giving each applicant at least one hundred thousand and, if possible, as many more."

It is the intention of the commission to try and stock some of our many inland lakes with masacalonge. These are a valuable game and commercial fish. The wall-eyed pike that have been planted of late years are now beginning to "show up" and I do not see why the masacalonge should not do equally well.

It has been proved to the satisfaction of the commissioners that carp can be raised successfully in our State. From the fact that the water at the Madison Hatchery is cold spring water it was found that carp could not be raised to advantage there, so the superintendent secured a pond or slough of some two acres in extent situated on the farm of Mr. W. Comstock, about two miles southwest from the hatchery. On the 16th of May last he put seventy-five breeders in this pond and on drawing a net a few days ago he found that there were thousands of young carp from two to four inches in length. He brought some five thousand to the hatchery for immediate distribution and says that there is no apparent decrease of fish in the slough. He expects to ship at least fifteen thousand this fall and have a large number left over for breeding purposes. There are several instances reported throughout the State of persons having received from twelve to twenty young carp from the U. S. Fish Commission at Washington two and three years ago and now finding that they have well stocked ponds.

Our Board of Fish Commissioners and their superintendent certainly deserve credit for the manner in which they have carried out the work entrusted to their care. Wisconsin now ranks as high as any State in the Union in regard to the artificial propagation of fish and if I mistake not as far as brook trout are concerned *it takes the lead*.

Madison, September, 1887.

I. WILMOT.

ANGLING NOTES FROM ABROAD.

The London *Times* says: "A large shark has been captured close to the harbor of Fiume. It was four and a half metres (about 15 ft.) long and weighed 1,460 kilogrammes. The stomach contained a pair of human feet with boots on them."

A correspondent of the English *Land and Water* writes to that paper as follows:

A few days ago, while fly-fishing for chub, at Cheshunt, I was casting in a pool of clear water. The bank on my side was rather high, and in withdrawing my line to recast, a strong side-gust blew my fly (a little red palmer from Carter) on to the rushes. Rather than show myself in disengaging the fly, I decided to break my cast and fix up another. I did so by crawling up to the bank and reaching over. When I had finished fishing the pool, I let myself down the bank after the fly left on the bull rush, and after looking for some time discovered it with what I thought was a snail on it, but on looking closer, what was my surprise on discovering that it was not the shell of a little snail, but a large, slaty-colored spider firmly fixed on the body of the red palmer. I plucked the rush and tried to shake him off, and then looked closely; he seemed to be biting away most excitedly. I had to regularly tear him away before restoring the fly to my book.

I hope you will not consider this too strong for insertion in your paper, but it is a positive fact.

"G. E. S.," writing to the English *Fishing Gazette* under the caption "Methods of Fly-fishing," boils down the long discussion of the dry and wet-fly superiority briefly thus:

The discussion as to the relative merits of dry and wet-fly fishing seems to be gravitating to the conclusion that the one system is successful on one stream, or on certain stretches of it, under peculiar circumstances of water and weather, and that the other prevails under conditions that are nearly or exactly the reverse. However, the humor of the trout, or rather his inclination to take whatever food is most available, is the matter that must determine the *modus operandi* for the hour. And as to the issue, that will greatly depend whether trout are really feeding or not. A hungry trout is a creature of impulse, and the fish that darts for food with lightning speed will not for a trifle be pulling himself up to think (and under such circumstances extreme lightness of tackle, though not undesirable, is not all important); but if he catches a glimpse of the fisherman, he will certainly swerve out of his course, or finish his rush with closed lips.

Of the two systems wet-fly fishing seems to come between dry-flying and fishing with bait; but not midway by any means. It, however, resembles bait-fishing in that the lure, for the most part, passes out of sight, and the intimation that a fish has taken the fly is received from a check in the line, as otherwise from the movement of the float. The striking with a wet fly must be a quicker movement than when dry-flying, and is most certain when the fly is worked up stream, with the point of the rod near the surface, and the line thus held at its fullest stretch.

Dry-flying is a matter of sight from beginning to end, and hence every part of the process is the result of observation, thought and design. A particular fish is stalked, and then the duel between man and fish comes off under circumstances more favorable to the fish than when angled for by other methods. The gut is better seen by the fish on the surface than in mid-water, and this gives the fish a proportionate increase of advantage. Again, a fish is always the more timid and circumspect the nearer it is to the surface—unless when very near a bank—and this makes for dry-flyers another element of difficulty. And may it not also be assumed, since trout obtain a greater variety of food and more substantial fare below the surface than on it, that the main business of feeding takes place below, to the benefit of the wet-fly method, and that those trout which, balancing themselves a few inches below the top of the water, take now and then a dun if it passes directly over them, are not, for the most part, very intent on feeding, and hence the more cautious and circumspect?

That very much more accurate and delicate casting is required in using a dry fly than a wet one hardly requires mention; and if the more the difficulties in number and the greater in degree the greater the charm, then dry-flying is certainly the most charming of all methods.

Land and Water has a contributor who thus minutely describes a method for obtaining plaster casts of fishes the forms of which it may be desired to reproduce:

Being rather of an enthusiast in the matter of the casting of fish, and believing, as I do, that it is the only scientific way of representing faithfully the likeness of a fish, a few words from me, in addition to those of your other correspondents, may not be amiss. From practical experience I have found that a combination of the methods, described by Mr. Herder and "H. T. C.," for ordinary-sized fish is best. I perform the operation thus: Make a box, sufficiently roomy to allow an inch or so margin for the fins and tail when fully expanded, and an inch deeper than the fish. Thoroughly oil the bottom and sides, then pour liquid plaster of Paris into the box—the quantity can be judged after a little experience—into this carefully drop the fish, taking care that the plaster does not cover more than half the side of the fish. While the plaster is solidifying expand the fins, tail, etc., and keep

them in position with pin points. When the plaster is dry smooth the surface and wipe off all superfluous particles which may have become attached to the fins or other parts of the fish. Do not on any account disturb the fish. Next go over the whole surface of fish and plaster with a brush dipped in olive oil, sparingly over the former, but more plentifully over the plaster. Now make a fresh mixture of plaster, and pour into the box, completely covering the fish, and shaking and tapping the mould during the process of settling. As soon as the plaster has firmly set, turn out the whole mass. Pare around the edges with a knife until the division of the two portions of the cast are clearly defined; insert a spatula between and gently open the casing. The fish can be easily now removed, and, if well cast, every detail will be found strongly marked upon the uppermost mould. This completes the first part of the process. Now carefully remove any overhanging projections from the upper mould, so as to prevent the cast, now about to be taken, from sticking; replace the mould in the box, thoroughly saturate with oil, repeat the process of pouring in plaster of Paris until there is about from half an inch to an inch depth in the box. After this has set, separate the mould and cast in the manner before described, and if all has gone well an exact *fac simile* of the original fish will be found. It is a good plan to insert a piece of rope, knotted at each end, and forming a sort of handle, into the plaster before it sets. This enables the cast and mould to be easily separated from each other, and forms a loop whereby to hang the plaster cast up. It is important not to let the plaster set too hard before separating the cast from the mould. The cast when completed, can be let into a piece of board the proper size to give a good effect. The cast has simply to be placed on the piece of board; a pencil line marks the position where the cast is to be inserted into the board; this is cut out with a chisel or saw, and the cast pushed in flush with the surrounding board. A little putty will be useful in filling up any interstices. The plan of leaving a margin of plaster from an inch to two inches all round commends itself, on the grounds that the fins and tail are protected.

A writer in the English *Fishing Gazette* says:

Eels are queer feeders sometimes, and, like the pike, are not particular about devouring one of their own species if needs be. A peculiar instance of this sort of cannibalism occurred at Blyth, in North Notts, a few days ago. A party went out to the Idle fishing, and one of them in a short time noticed an eel a short distance off that was behaving in a very queer fashion. Trying to capture it with a rod and line, it refused all baits offered, and appearing ill and nearly dead, the angler tried his landing-net, with the result of finally getting it out of the water. Its condition was a source of interest, and the suggestion that it should be opened then and there was acted on. To the surprise of the operators, another eel was discovered inside it, which, on being liberated, showed itself excessively lively, and would soon have made its way back to the water had it not been stopped. It seems the larger eel had swallowed the smaller, which by its lively attitude was making its captor particularly uncomfortable. There was every reason to suppose that shortly the larger eel would have fallen a victim to the smaller had its career not been prematurely brought to a close. The swallowed eel was very nearly half the size of the swallower.

The Anglers' Guide to the Fishing Waters of the United States and Canada—Third Edition.—This book is invaluable to the angler and tourist. It tells how eight thousand fishing waters are reached, the species of fish therein, hotel accommodations and cost, cost of guides, boats, etc., baits used and the best months for fishing. It also contains a summary of the fish laws of the States and Territories and those of the Canadian Provinces. Handsomely bound in cloth, Price \$1.00. Address THE AMERICAN ANGLER, New York.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

HIGH WATER TABLE OF TIDES FOR THE NORTH ATLANTIC COAST.

[Collated from the United States Coast and Geodetic Survey Tables.]

OCTOBER.

October.	Eastport, Me.	Portland, Me.	Boston, Mass.	Newport, R. I.	New London, Conn.	Sandy Hook, N. Y.	Philadelphia, Pa.	Baltimore, Md.	Washington, D. C.	Old Point Comfort, Va.	Charleston, S. C.	Savannah, Ga.	Fernandina, Fla.	Key West, Fla.
1	10.49	11.03	11.20	7.28	8.35	7.10	0.44	6.09	7.18	8.08	6.53	7.40	6.58	8.33
2	11.20	11.35	11.51	8.03	9.13	7.48	1.21	6.45	8.02	8.42	7.28	8.17	7.35	9.08
3	11.49	.....	0.12	8.36	9.49	8.23	1.58	7.20	8.38	9.12	8.03	8.53	8.11	9.40
4	0.13	0.27	0.46	9.07	10.28	8.57	2.34	7.54	9.13	9.45	8.36	9.27	8.47	10.09
5	0.45	1.00	1.16	9.40	11.06	9.28	3.12	8.28	9.39	10.18	9.11	10.08	9.25	10.41
6	1.18	1.32	1.48	10.10	11.52	9.59	3.52	9.07	10.17	10.55	9.49	10.40	10.06	11.20
7	1.55	2.08	2.23	10.54	.....	10.34	4.34	9.49	10.59	11.38	10.31	11.22	10.51	12.06
8	2.37	2.48	3.05	11.39	0.30	11.15	5.18	10.36	11.45	0.01	11.18	.....	11.42	.....
9	3.24	3.37	3.52	0.07	1.53	.....	6.09	11.29	0.12	0.54	.....	0.24	0.12	0.43
10	4.18	4.30	4.45	1.09	3.08	0.44	7.08	0.00	1.10	1.67	0.37	1.24	1.09	1.45
11	5.17	5.30	5.46	2.17	4.12	1.44	8.14	1.03	2.13	3.03	1.43	2.30	2.08	3.03
12	6.20	6.32	6.48	3.26	5.11	2.52	9.21	2.08	3.21	4.07	2.49	3.37	3.06	4.22
13	7.23	7.32	7.50	4.25	6.03	3.57	10.25	3.11	4.28	5.04	3.51	4.38	4.07	5.32
14	8.18	8.32	8.50	5.21	6.53	4.58	11.24	4.14	5.29	5.58	4.50	5.38	5.00	6.31
15	9.12	9.23	9.44	6.15	7.41	5.56	.....	5.12	6.23	6.51	5.44	6.33	5.92	7.22
16	10.03	10.16	10.35	7.03	8.29	6.50	0.40	6.06	7.14	7.40	6.35	7.25	6.43	8.12
17	10.52	11.05	11.23	7.52	9.16	7.42	1.29	6.53	8.00	8.28	7.24	8.15	7.33	8.58
18	11.40	11.54	.....	8.39	10.05	8.32	2.18	7.40	8.48	9.15	8.12	9.01	8.25	9.40
19	0.11	0.24	0.43	9.25	10.56	9.22	3.10	8.27	9.37	10.04	9.01	9.53	9.16	10.28
20	1.03	1.16	1.35	10.13	11.52	10.11	4.00	9.15	10.25	10.54	9.51	10.44	10.11	11.20
21	1.56	2.10	2.30	11.01	1.00	11.00	4.50	10.07	11.16	11.48	10.40	11.37	11.08	.....
22	2.55	3.10	3.29	11.52	1.08	11.52	5.44	11.03	.....	0.26	11.30	.....	11.06	0.06
23	3.58	4.13	4.33	0.36	2.09	0.36	6.41	.....	0.42	1.29	0.12	0.59	0.46	1.07
24	5.07	5.22	5.40	1.41	3.22	1.34	7.40	0.32	1.43	2.37	1.15	2.03	1.46	2.18
25	6.15	6.31	6.48	2.49	4.22	2.34	8.39	1.31	2.42	3.42	2.18	3.06	2.42	3.38
26	7.19	7.34	7.50	3.55	5.15	3.34	9.34	2.27	3.41	4.40	3.17	4.06	3.35	4.52
27	8.14	8.30	8.43	4.60	6.03	4.29	10.25	3.16	4.35	5.30	4.12	4.59	4.22	5.50
28	9.01	9.16	9.30	5.56	6.48	5.19	11.11	4.08	5.23	6.16	5.01	5.47	5.06	6.47
29	9.41	9.55	10.11	6.18	7.26	6.04	11.52	4.52	6.05	6.51	5.43	6.33	5.44	7.29
30	10.16	10.30	10.45	6.55	8.03	6.43	0.11	5.35	6.45	7.32	6.22	7.11	6.20	8.08
31	10.45	11.00	11.12	7.28	8.38	7.20	0.48	6.14	7.22	8.06	6.57	7.47	6.54	8.44

The above table gives the morning tides which are calculated on local time. To reduce to standard time subtract 32 minutes from Eastport, 19 m. from Portland, 16 m. from Boston, 15 m. from Newport, 12 m. from New London, 4 m. from Sandy Hook and 1 m. from Philadelphia. Add 6 m. to Baltimore, 8 m. to Washington, 5 m. to Old Point Comfort, 20 m. to Charleston, 36 m. to Savannah, 34 m. to Fernandina and 33 m. to Key West time. Add 23 min. to Sandy Hook time for Barnegat L. tide, or three minutes for Atlantic City tide.

LOCAL FISHING.

A friend suggested that we should run down to Wreck Lead a few days since, just this side of Long Beach, where every accommodation is at hand for fishermen at Captain Stephen Stillwell's hostelry. With Captain Joseph Brower, of Rockville Centre, as guide, we started out for kingfish. He knew just where to go for them and how to get there. We got nine fine kingfish, two full baskets of sea bass, porgies, flukes, etc. None wasted. Weakfish haven't shown up much here this season.

Fishing holds out quite good all about the bays. At Gravesend and Fort Lafayette the weakfish are biting; also in Broad Channel and off the iron pier at Rockaway. Snappers, kingfish, etc., are on hand. I hear that Captain Lowenstein and son, near Prince's Bay, have been taking some nice striped bass. At Pier 1, East River, there have been a good many taken, but there has been so much crowding there in the past that passes have to be procured from the superintendent. From the pier under the Brooklyn Bridge quite a good many striped bass have been taken. "Tommies" and flounders will soon be here. The sport

can be kept up till the price of coal is put up. A pocket stove is a good thing to have when after them.

I see by the New Jersey papers that small sea bass have been immensely plenty in Barnegat Bay and that one man caught 400 in a short time; they seem more plenty all about here than for years past, while weakfish have been scarcer.

Cornele Bergen reports taking one day last week nearly seventy weakfish and kingfish, off the Cinder Beds, near the Upper Hospital Island.

SIMON FISHER.

Brooklyn, Sept. 26.

MORE GOOD FISHING AT COLUMBIA, CONN.

The fore part of the present month (September) was attended with much better success at the Columbia Reservoir than has been experienced for some time. John Payne and Mr. Thompson made a fine haul of about a dozen ranging in weight from three-fourths of a pound to three and one-half pounds. A day or two after Asahel C. Wright and John Russe caught twenty-four fish, the heaviest being a three-pounder. About the same time Egbert Brown and his brother Albert were trolling, when as they supposed they had become snagged, but feeling a yielding, they commenced to pull in and had an enormous pickerel attached to the hook. Mr. Brown declared that it was not less than two and one-half feet long and very deep, but when attempting to lift it into the boat the swivel to the spoon broke, releasing the fish.

WM. H. YEOMANS.

Columbia, Conn.

(Reached via Michigan Central R. R.—O. W. Ruggles, G. P. A., Chicago, Illinois.)

VANDERBILT, MICH., Sept. 21.—Rivers Sturgeon, Pigeon and Black, about 4, 8 and 12 miles east of this place, are considered to be good fishing grounds by the people of this section. Grayling and speckled trout are the principal fish. About eight years ago the trout were plentiful, but the grayling are a native fish. Thumb Lake, twelve miles west, is considered a good "perch" ground. A tent is the only hotel to be had, and that has to be taken along. Here at Vanderbilt are three hotels, all \$4.00 per week, as good as the general run of hotels up in this part of the country.

W. H. S.

ORION LAKE, MICH., Sept. 22.—The catches for the week are as follows:

Johnny and Clarence Farrell, trolling, caught one pickerel weighing 5½ lbs. and two black bass weighing 9 lbs.

C. H. Smith, of Chicago; Dan Farrell and H. E. Williams, of Orion, caught 125 bass last Saturday, the largest 4 lbs. and the smallest 2 lbs. Used live minnows and frogs.

Marsh. Shoupe, ten bass and two pickerel on Cranberry Lake. Average weight 3 lbs.

The eels are running, a large number being caught last Tuesday night. There were nineteen taken in one haul from the flume at grist mill. The largest weighed 7½ lbs. and the smallest 5 lbs.

D. F. F.

(Reached via New York Central and Hudson River R. R.—Henry Mo-nett, G. P. A., N. Y. City.)

SING SING, Sept. 22.—Bass and weakfishing on the reef at Croton Point any tide is splendid. Parties are taking bass from 1 to 6 lbs. every day. Yesterday J. H. Phyfe, assistant superintendent New York Central and Hudson River Railroad, and brother brought ashore here over 60 lbs., some very fine ones. Shedder crabs and sand worms are the bait.

W. T. L.

(Reached via Old Colony R. R.—Geo. L. Conner, G. P. A., New York City.)

NANTUCKET, Mass., Sept. 22.—The bluefishing continues good in these waters. The boats average twenty a day. Capt. Geo. S. Brown, one of our best boatmen, in his yacht *Priscilla* carries parties out daily and returns with good fares, contributing to his patrons' pleasure in no small way. C. C. C.

POCASSETT STATION, Mass., Sept. 21.—To reach this place take the Fall River line (Woods Holl Branch) from New York City, fifty-eight miles from Boston and forty-three miles from Fall River.

Pocassett, Barnstable County, Mass., is situated on the east shore of Buzzard's Bay about six miles from its head. This bay is the fisherman's paradise. The use of nets, seines and traps (except the latter for lobster fishing) is forbidden by law. Pocassett harbor is well protected by Bassett's Island from the prevailing southwest wind.

The bluefishing in our immediate waters is the great attraction for professed anglers who are after a gamy fish. They are caught with rod and reel and by trolling, about sunrise or sunset, from half-flood to high water, using minnow or small eel bait. For artificial bait use silver, tin, bone, lead or wood, with eel skin, tin foil, white or red rag.

Other fish in great abundance are tautog or blackfish, best caught on half-flood, with usual tackle. Bait used: lobsters, fiddler crabs, soft or little neck clams. One may easily take 150 lbs. per day, and often experts take 300 lbs. in the same time. Rock bass, scup or porgie, the latter averaging from $\frac{1}{2}$ to $\frac{1}{4}$ lb., are also plentiful from May until the end of September. These may all be caught near shore, and bait is plentiful and easily obtained. A smaller fish, called in the neighborhood "chogset," and the turbot, are also caught here.

Fresh water ponds are numerous within a mile or so of the railroad station, affording pickerel fishing, and in the spring brook trout are numerous. The writer has caught 15 lbs. of nice brook trout in a day in the neighboring streams. The tides average about five feet. Pocassett is about fifteen miles from Nauset Island at the mouth of the bay. Aside from the fishing Pocassett is an agreeable place for a summer's visit. Its shores and islands are picturesque. Oak and pine groves extend almost to the water's edge. There is a hotel, and handsome summer residences are seen along its shores in every direction. For bathing the waters of Buzzards Bay, from their proximity to the Gulf Stream, are more pleasant, being warmer, than along the famous north shore of Massachusetts.

W. H. M.

PLYMOUTH, Mass., Sept. 21.—Heard of some good catches of b. b. recently. One mill operative at one of the Russell mills caught six nice ones one morning and two the same noon weighing 2 lbs. upward; one weighing $4\frac{1}{4}$ lbs. from Mica-job's Pond. Some mackerel have also been taken by hook. A boat brought in forty large ones this morning weighing over 2 lbs. each, some $2\frac{3}{4}$ lbs., and this is very large for these fish. Seiners have been cruising in the bay with varying success. Duck stands at the ponds are being "greened up." This will put a stop to some of the fishing, as gunners claim the right after a time. Some ducks have already been in the ponds, but I have heard of none being killed yet. Wild sea fowl are coming along, but are not plenty. C. F. H.

MATTAPOISETT, Mass., Sept. 22.—Since my last report I have been out twice, once for bass, once tide water. The latter was better than an average. Wind light and variable, from S. E. to S. W.; water clear; tide one-fourth flood to full. The catch was tautog, thirty-two in number, of fair size. The bass fishing was at Blackmore's Pond, in Wareham, about four miles from Tremont (North Wareham), the junction of Fairhaven Branch R. R. with Cape Cod R. R., and ten miles from here. Water very clear; bottom grassy; more like moss; very few lily pads or

weeds. The best fishing I have had this season. Took nineteen; smallest $\frac{1}{2}$ lb., largest 4 lbs. G. H. D.

(Reached via Duluth, South Shore & Atlantic R. R.—E. W. Allen, G. P. A., Marquette, Mich.)

MORAN, Mich., Sept. 7.—The following fish were caught at Brevoort Lake by the Pittsburgh Rod and Gun Club, of Pittsburgh, Pa.:

A. P. Cochran, 200 perch, 57 lbs.; 5 rock bass, 5 lbs.; 1 black bass, $3\frac{3}{4}$ lbs.; 1 ditto, $2\frac{1}{4}$ lbs.; 1 ditto, $2\frac{1}{4}$ lbs.; 1 ditto, $3\frac{3}{4}$ lbs.; 2 pike ($4\frac{3}{4}$ and $4\frac{1}{4}$ lbs.), $9\frac{1}{4}$ lbs.

Theodore Kappel, 4 black bass ($2\frac{1}{2}$, $3\frac{1}{4}$, $2\frac{3}{4}$, $2\frac{1}{4}$), $10\frac{3}{4}$ lbs.; 5 pike (5, $5\frac{1}{4}$, $4\frac{1}{4}$, $4\frac{1}{4}$, 2 lbs.) $21\frac{1}{4}$ lbs.

Wm. G. Schirmer, 4 pike ($8\frac{1}{4}$, $3\frac{1}{4}$, 7, 5 lbs.), $23\frac{3}{4}$ lbs.; 1 black bass, 3 lbs.; 5 rock bass, 6 lbs.

Jos. Stanger, 2 pike (5, $4\frac{1}{4}$ lbs.), $9\frac{1}{4}$ lbs.

Fred Heil, 1 black bass, $3\frac{3}{4}$ lbs.; 4 rock bass, 3 lbs.; 3 pike (2, 3, 3 lbs.), 8 lbs.

Heber McDowell, 4 rock bass, 3 lbs. 10 perch, 4 lbs.

E. Deroy, 5 rock bass, 4 lbs.; 6 perch, $2\frac{1}{4}$ lbs.

Hiram Depuy, 3 black bass ($4\frac{1}{4}$, $3\frac{1}{4}$, 3 lbs.), $10\frac{3}{4}$ lbs.

P. J. Brown, 2 black bass ($5\frac{1}{4}$, $4\frac{1}{4}$ lbs.), 9 lbs. 10 oza.; 2 pike ($7\frac{1}{4}$, 5 lbs.), $12\frac{1}{4}$ lbs.

Capt. Carson, 3 pike (4, $5\frac{1}{4}$, 6 lbs.), $15\frac{1}{4}$ lbs.; 1 black bass, $4\frac{1}{4}$ lbs.; 1 rock bass, $1\frac{1}{4}$ lbs.

Robert Lee, 1 pike, 7 lbs.; 2 black bass, 4 lbs.

Fred Toerge, 100 perch, 40; 1 bass, $2\frac{1}{4}$ lbs. L. W.

PUBLISHERS' DEPARTMENT.

Attention is directed to the advertisement of the Associated Fan-ciers which appears in this issue. Every sportsman wants a fine dog and the reputation of these gentlemen for furnishing such makes it a real pleasure to deal with them. Mr. Geo. W. Gibbs, the popular advertising agent, of Buffalo, N. Y., under date of September 23d, writes: "The pointer 'Beulah' received from the Associated Fan-ciers is the admiration of every one. She is as near perfection as a dog can be, and, had I been there in person, could not have made a more satisfactory selection. If I wished a dozen more would place implicit trust in their judgment."

THE FALL RIVER LINE announces through Mr. Geo. L. Connor, its General Passenger Agent, that the double daily service of this line will be discontinued at the close of week ending September 24th, after which date the 6.15 boat from New York, and 7.00 P. M. connecting steamboat train from Boston, will be withdrawn from service. The steamers Pilgrim and Bristol will remain in commission, and will leave New York, from Pier 28 (old number), N. R., foot of Murray Street, for Boston and the East, via Newport and Fall River, at 5.00 P. M., daily, Sundays included, instead of 5.30 P. M., as at present. Connection by Annex Boat from Brooklyn at 4.30 P. M., Jersey City 4 P. M. Returning, train connecting with steamers at Fall River leaves Boston at 6.00 P. M. week days; 7.00 P. M. Sundays. Music on steamers.

The Fishes of the East Atlantic Coast.—A practical book on the salt water fishes of the Atlantic Coast, giving the scientific and popular descriptions, habits, habitat, when, where and how to catch them, of forty-two fishes that are caught with hook and line; twenty-eight engravings drawn from nature. Handsomely bound in cloth. Price \$1.50, postage free. Address THE AMERICAN ANGLER, New York.

The Angler's Score Book.—Contains blank forms (with stubs) for registry of fish caught; their species, size, weight, baits used, waters fished in, with conditions of wind, water and weather. Pocket size, paper cover, 10c.; in limp cloth, 25c. Address THE AMERICAN ANGLER, New York.

The Game Fishes of the West.—A practical Angling Treatise fully illustrated. The essays have been written by the most prominent angling authors in America, and this edition is essentially a text book for anglers and lovers of natural history. Paper. Price 15 cents, postage free. Address THE AMERICAN ANGLER, New York.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
The Carp from an Angling Standpoint. Nov. 19, '81.
Deep Trolling in Fresh Water. Dec. 21, '81.
Chub Fishing with the Fly. Dec. 21, '81.
Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
Modern Tackle and How to Use it. April 8, 15, 22, 29, May 6, 20, '82.
Holding Hard and Killing Quick. April 1, 29, '82.
Catching Shad with the Fly. April 15, '82.
Basket Straps, Shoes, etc. April 22, May 5, June 3, '82.
Baits Used in Salt Waters. May 6, '82.
When to Strike. May 20, June 10, July 15, '82.
Trout of the Yosemite. May 27, '82.
Trolling for Lake (Salmon) Trout. May 27, '82.
The Reel, Gaff and Rod. June 3, '82.
Trolling for Bluefish. June 17, '82.
Tackle and Traps. Aug. 12, '82; March 15, '84.
Light vs. Heavy Rods. Aug. 26, '82.
Waterproofing Fish Lines. Nov. 18, '82.
Trouting in the White Mountains. Dec. 2, '82.
What is a Pike? What is a Pickerel? Illustrated. Dec. 16, '82.
A Sole Leather Bait Box. Illustrated. Dec. 23, '82.
Striking and Playing a Fish. Dec. 30, '82.
The White Perch. Illustrated. Dec. 30, '82.
A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
A Treatise on the Black Bass—Habitat, Modes of Capture, etc. Illustrated. Feb. 3, 10, 17, 24, '83.
The Strawberry Bass. Illustrated. Feb. 17, '83.
A Treatise on the Pike—Habitat, Tackle Used, etc. Illustrated. March 3, 10, 17, 24, '83.
The Reel—Its Place on the Rod. March 24, April 14, June 16, '83.
The Atlantic Salmon, Scientific and Popular Description—Habitat and Capture. Illustrated. March 31, '83.
Minnows as Bait. Illustrated. April 7, 14, 21, '83.
Catching Flounders. Illustrated. April 7, '83.
The Trout of Maine Waters. April 14, 21, 28, May 5, '83.
The Trout Streams of the United States and How to Reach Them. April 14, '83.
A Serviceable Fishing Boat—How to Build it. Illustrated. April 21, '83; Dec. 20, '84.
Making a Split Bamboo—Amateur Work. April 28, '83.
Varnish for Rods. May 5, '83.
A Treatise on the Brook Trout—Habitat, Habitat and Capture. Illustrated. May 12, 19, 26, June 2, '83.
The Colorado Mountain Trout. May 12, '83.
A New Minnow Pail. Illustrated. May 12, '83.
The Striped Bass—Rock Fish—Description, Modes of Capture, etc. Illustrated. May 26, June 2, '83.
The Split Bamboo—Its History, etc. May 19 and June 2, '83.
A Treatise on the Bluefish and Weakfish. Illustrated. June 9, '83.
The Smelt of Sebago Waters—Description, Capture, etc. Illustrated. June 16, '83.
A Treatise on the Sheephead. Illustrated. June 16, '83.
The Lake Trout—Where, When and How to Take Them. Illustrated. June 23, 30, July 7, '83.
The Kingfish and Bonito—A Practical Essay. Illustrated. June 23, '83.
A Treatise on the Black Drum and Spanish Mackerel. Illustrated. June 30, '83.
How to Play a Black Bass. June 23, '83.
A Treatise on the Blackfish and Flounder. Illustrated. July 7, '83.
Black Bass Minnow Rods—Their Construction, etc. July 7, '83.
A Treatise on the Lake Herring—Coho. Illustrated. July 7, '83.
The Sea Bass, Boregall and Tomcod—How, When and Where to Capture Them. Illustrated. July 14, '83.
The Codfish and the Haddock—How Taken on the Hook. Illustrated. July 21, '83.
Amateur Rod Making. Illustrated. July 21, Sept. 29, Oct. 13, Oct. 27, Nov. 17, Dec. 22, '83; Jan. 3, 12, 19, 26, Feb. 2, 9, 16, 23, '84; Jan. 3, 10, '85.
The Keneshall Rod—Dimensions, etc., given by Dr. James A. Henshall. July 21, '83.
A Treatise on the Lafayette (Spot) and the Menhaden. Illustrated. July 28, '83.
The Shad and Snapping Mackerel. How, When and Where to Take Them. Illustrated. Aug. 11, '83.
Anglers' Knots. How to Tie Them. Illustrated. April 8, May 6, 13, '83; Aug. 18, Sept. 8, Oct. 6, '83.
By Laws of a Fresh Water Club. Aug. 18, '83.
A Treatise on the Hogfish—Salters' Choice. Illustrated. Sept. 1, '83.
A Treatise on the Pike-perch or Wall-eyed Pike—Habitat, Habitat and Mode of Capture. Illustrated. Sept. 8, 15, 22, 29, Oct. 6, '83.
Dressings for Flies. Sept. 29, '83.
The Bisby Trout—Scientific and Popular Description; How they are Caught, etc. Illustrated. Oct. 13, Oct. 20, '83.
Rod Joints. Illustrated. Oct. 20, Nov. 10, '83.
Description and Review of the American Anglers' Casting Tournament. Oct. 21, 28, '83; Oct. 20, 27, '83; Oct. 18, 25, Nov. 1, '84; Oct. 24, 31, '85; May 28, June 4, '87.
Fly-fishing for Trout. Oct. 27, '83.
Fishes of the East Florida Coast—How, When and Where Taken. Illustrated.
The Channel Bass. November 10, 17, 1883.
The Salt Water Trout—Florida Weakfish. " 17, "
The Red Grouper. " 17, "
The Rock Grouper. " 24, "
The Pompano—Pompey-Nose. " 24, "
The Crevalle or Crevalle. " 24, "
The Mangrove Snapper. December 1, "

- The Ladyfish—Skipjack—Bonefish. December 1, 1883.
The Jewfish. " 1, "
The Sergeant Fish—Crab Eater. " 8, "
The Tarpon—Tarpon. " 8, "
The Black Drum. " 8, "
The Salt Water Catfish—The Conger Eel and Mullet. " 15, "
The Best Bait for Black Bass. Illustrated. Dec. 15, '83.
The Fishing Grounds of Florida—Tackle and Lures. Dec. 22, '83.
Trout Fishing on Rapid Streams. Dec. 29, '83.
The Trout of Northern Michigan. June 9, '83.
Reason and Instinct in Fishes. Nov. 24, '83.
Preserving Fish as Specimens. Jan. 26, '84.
Black Bass Fishing in Lake Champlain. Feb. 2, 9, 16, 23, '84.
Fishing for Sea Trout. Feb. 9, '84.
Black Bass Grounds Near Baltimore, Md. Feb. 23, '84.
When and How to Catch Weakfish. May 10, '84.
A Treatise on the Land-locked Salmon. May 17, '84.
Game Fishes of the Northwest. May 24, 31, June 28, July 19, '84.
Black Bass Fishing at Henderson Harbor, N. Y. July 12, Aug. 30, Nov. 1, '84.
The Dead River Region of Maine. July 12, '84.
How to Reach the Nipegon. Aug. 9, '84; Jan. 31, '85.
A Treatise on the Strawberry Bass—Croppie. Illustrated. Aug. 23, '84.
Spinning for Large Trout. Aug. 23, '84.
Hints for Practical Trout Fishing. Sept. 13, '84.
Fishing in Moosehead Lake. Sept. 20, 27, '84.
Sandals for Rubber Wading Boots. Illustrated. Sept. 20, '84.
History of the Fish Hook. Oct. 4, '84.
Habits of Trout. Oct. 4, '84.
Insects as Angling Lures. Sept. 27, Oct. 4, 11, 25, '84.
English Methods of Bait-casting. Illustrated. Oct. 18, '84; Jan. 23, 30, Feb. 6, '85.
Dr. Henshall's Method of Bait-casting. Illustrated. Oct. 18, '84.
Fishing for the Grayling of Michigan. Illustrated. Nov. 29, Dec. 6, 20, '84; March 7, 21, '85.
Definition of Ichthyological Terms. Dec. 13, 20, 27, '84; Jan. 3, 10, 17, 24, 31, Feb. 7, '85.
Casting the Minnow for Black Bass. Jan. 10, '85.
Stocking Streams with Trout. Jan. 24, '85.
How to Feed Young Trout. Feb. 7, '85.
Hooks for Trolling Gangs. Feb. 14, '85.
Transporting Live Minnows. Feb. 28, March 14, '85.
Habits of the Black Bass. March 14, 21, 28, '85.
Seth Green on How to Catch Lake Salmon Trout. April 4, '85.
The Tarpon on Rod and Reel. April 18, May 2, '85.
Black Bass Fishing at Kelly's Island, Lake Erie. April 25, '85.
The Inner Nature (senses) of Fish. May 16, 23, 30, '85.
Seth Green on Growth of Young Trout. May 16, '85.
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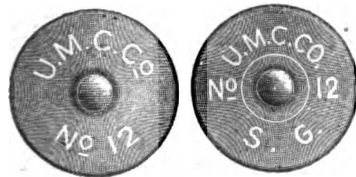
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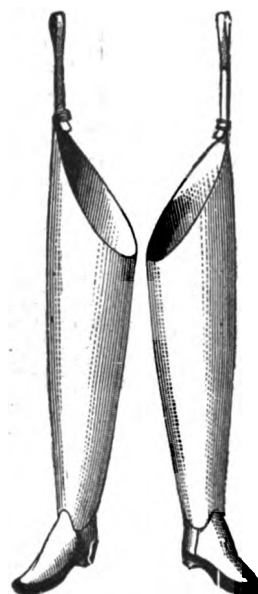
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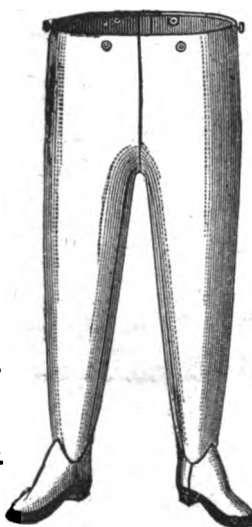
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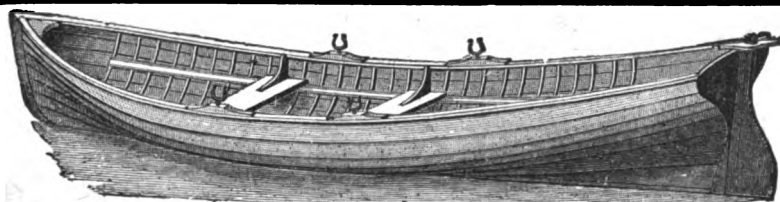
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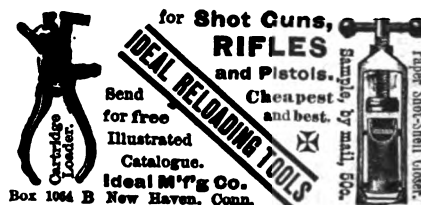


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NEW YORK—CHICAGO, OCTOBER 8, 1887.

VOLUME XII, NUMBER 15.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Boulevard St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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Our esteemed correspondent "P," an angler of the first repute, sends us sad news in these few words: "The many readers of THE ANGLER will join me in extending to Brother John Mead, of North Bridgton, Me., whose name has appeared so often in THE ANGLER in aid of the angling fraternity at large and whose heart and hand have always been at the service of the commission and all interested in its objects, our deepest sympathy in the loss of his most estimable and devoted wife, who died October 1st, after a brief illness of about three weeks. She was a very kind and loving mother, as her children's devotion well testify to; a most noble wife and a devoted friend to all who had the pleasure of her close acquaintance and enjoyed the charm of her delightful home, which was full of the sunshine and happiness she shed upon it."

THE SEASON'S FISHING.

It seems to be generally admitted that the past season has been an exceptionally good one for anglers, both in salt water and fresh. During the spring and summer, while our angling friends in Great Britain were pining for sport that could not be had, owing to a most protracted drought, our own streams have been swelled with abundant rains and our atmosphere has been filled with the "humidity" that prevails

"When the trout leaps highest to take the fly."

Within five years the impression was general among anglers that the trout streams of the midland counties of our own State were "played out." That the "fish-hog" and the poacher had depleted all the old and well loved haunts of *fontinalis* was accepted as an axiom and the angler who felt unable to make a yearly pilgrimage to Maine or Manitoba, Canada or Colorado, threw down his rod in despair and betook himself to other out-door sports or to chronic dyspepsia. That a great change has taken place in this respect since that time even the most sceptical must admit. Artificial restocking and in many places judicious preservation enforced by property owners on the once "played out" brooks have completely reestablished the fishing upon a secure and lasting basis.

Within a week we have talked with one of the most expert and thorough fly-fishers of our acquaintance—one who is not only a fine long-distance caster, but in all those finer points of angling that go to fill a creel as well as please a crowd, is proficient and experienced. This gentleman had just returned from a rambling, lounging, vagabondizing tramp-tour amid the hills and along the streams and mountain brooks of old Delaware County and, greedy of good sport as he is, he did confess that he had found thus near home sport in perfection as to quality and surroundings and a quantity that was entirely satisfying.

Equally satisfactory are the reports of salt water angling that have poured in from every direction all along our North Atlantic coast. The run of striped bass during the season has been phenomenal in numbers and particularly in its wide distribution. Weakfish, kingfish and at times moderate-sized bluefish and Spanish mackerel have afforded excellent sport on our shores and in our bays and inlets, while the smaller varieties of food-fishes have been unusually abundant.

In the far West the rapid extension of railways through heretofore inaccessible localities and the increased interest taken by their managers in the business possibilities of angling development have tended to bring this admirable

sport into greater prominence and favor in our western States than ever before.

Thus looking at it from all sides, it is impossible to avoid the conclusion that angling in America, regarded as a fine art, is far from being on the wane. On the contrary it is in the full vigor of a growing infancy and we predict that the disciples of the rod and reel will increase and multiply during the next decade in almost geometrical proportion and "So mout it be."

A NATIONAL BLESSING.

This has certainly been noted as a season in the course of which what is generically termed "sport" has had what is slangily called "a boom." Angling, base ball, yachting and out-of-door sports generally have occupied much more of the time and attention of the American people than has been commonly devoted to their pursuit here of recent years. This may be regarded in a general way as desirable. As a nation we have come to a point in our progress where we encounter what is called "the leisure class." this obstacle is one upon which many nations have tripped their national toes and barked their national shins. Our simple method of dealing with this is one of great beauty and has thus far been crowned with success. Instead of permitting our "leisure class" to suck enormous canes and wear preposterous collars and yawn themselves into a dismal eternity of useless gloom we put fishing rods into their hands, or polo ponies between their legs, or centreboards underneath them and wed them to pursuits which, if not in the strictest sense useful, are at least harmless and calculated to make men and women out of what would otherwise degenerate into mere human molecules assimilating inanity and exuding vacuity. In the better class of clubs and in the society of the best known people all over this country a man without a "sport" is regarded with as much suspicion as was the man without a shadow. We forgive a man in our days for having nothing to do because his father or his grandfather had more to do than he could attend to, but we do not like to see him do nothing *sitting still*. He must do it on horseback, or in a boat, or tailing on to a halliard, or wading down a trout stream, or in some other manly sort of fashion if he would not be the butt of manly men and modern American maidens.

A CATCH WORTH CATCHING.

The *Hartford Courant* has the following record of a "fisherman's luck" in a novel direction as to the nature of the catch:

A party of Norwich gentlemen recently took three black bass from the Coventry Lake weighing eleven pounds. One was taken from Columbia Reservoir a day or two since by Mr. John Payne weighing three and one-half pounds. A few days ago Col. Payne, son of Senator Payne, of Ohio, while visiting at the summer residence of H. F. Dimock in South Coventry, met Mr. John Payne, the happy possessor of a four-pound bass, the sight of which incited the Colonel to try his luck, which proved not the best. After abandoning the pleasure of fishing the Colonel presented the veteran fisherman with a handsome fishing rod costing \$25, together with a valuable reel. Colonel Payne is a brother-in-law of Secretary Whitney of the Navy, and the latter a brother of Mrs. H. F. Dimock, of Coventry.

A YOUNG EXPLORER LOST.

The youngest child of Mr. J. G. Rich, a boy of two and a half years, suddenly disappeared on the 16th of last month and was searched for by forty men with lanterns at night and the most systematic care during the day. The greatest excitement prevailed and the family were nearly hopeless and beyond measure distressed, but on the Sunday following, at about noon, the little fellow was fortunately found just in time to save his life. It was very near being no joking matter, but as all has turned out so well we may venture to say that the little lad only inherited his father's taste for angling and had no doubt started out in pursuit of a trout stream and had, in his enthusiasm, lost his way. Anglers who have read with pleasure Mr. Rich's contributions in our columns may perhaps be glad to have their attention called to the following from the *Oxford County Advertiser*:

We wish here to add, on our own responsibility, that many tokens of substantial sympathy and kindness have been and are being given to the stricken family, who are in straightened circumstances, owing to the poor health of the father. To tell the truth we have greater faith in human nature than we ever had before.

"OUTING" FOR OCTOBER.

The October number of *Outing* is one of the best and most entertaining recently issued. The range of subjects is wide, the variety of treatment pleasing and the illustrations in excellent taste and admirably executed. As a family magazine devoted to "all-round" out-of-door sports *Outing* is a marked success.

We excerpt the following well-merited and pleasant tribute to Professor Goode:

The recent appointment of Professor G. Brown Goode as United States Commissioner of Fish and Fisheries, calls for no further comment from us at this late date; but *Outing*, though late in tendering its sincere congratulations to Professor Goode upon the acquisition of his new honors, begs to assure him that they are none the less hearty and strong on that account. Everybody is aware that the Professor's rare qualifications, valuable experience and unbounded enthusiasm in his particular line of science make him eminently entitled to the position. *Outing* hopes he will hold it long, and looks confidently for great results in his administration. It is evidently "a Goode man in the right place."

THAT CHARGE OF "JIGGING."

The very serious charges of illegal and unsportsman-like "jigging" for trout made against Messrs. T. B. Stewart, of this city, and Mark Hollingsworth, of Boston, have given rise to much discussion in angling circles. It would be wrong for us to prejudice a case which is manifestly one which should find its settlement in a court of law, but we have been shown (as we are going to press) letters from many gentlemen claiming to be cognizant of the facts which certainly show that they were not guilty of the misdemeanor. THE ANGLER gladly believes them innocent till they are proven to be otherwise.

Before selecting your outfit of angling goods read the advertisements in THE AMERICAN ANGLER.

THE LIFE-NEEDS OF FISH.*

As the subject of fish culture and propagation becomes more and more important the interest in its details widens and deepens, so that it is not very surprising that we are constantly in receipt of inquiries on this important matter from many sources. There is a conspicuous lack of primary works on fish organisms, fish structure, fish nourishment and the methods of differentiation of species, and even of the higher classifications. Hence all that can be gleaned of that character from reliable sources is of great value to all who take a real interest in this portion of the animal kingdom. The following simple and perfectly clear exposition of the manner in which fish life is nourished is from a paper by Dr. Otto Zacharias in a recent Bulletin of the United States Fish Commission:

Water is the main condition of the life and well-being of fish. The water should contain food in the shape of infusoria, snails, worms and insect larvæ, but people trust to kind nature to furnish a constant supply of these. In the vast majority of cases this confidence is somewhat well placed, but as a general rule nature will supply only the absolute needs. If a good harvest of fish is to be a certainty the needs and habits of fish should be thoroughly studied, and care should be taken to remove everything which will interfere with these needs and habits.

Fish breathe through their gills, which consist of four double rows of cartilaginous leaflets. The blood-vessels distributed through them give to the gills a bright red color. Four bony arches support the double lamellæ, which exercise their important functions under a piece of horny skin called the "gill-cover." For the purpose of breathing the fish passes water into the branchial chamber; here it comes in contact with fringe-like leaflets, which it supplies with oxygen. The water makes its escape by the gill-opening. If you take a fish out of the water its breathing process is interrupted, the gill-leaflets begin to shrink and become dry, when they are unable to absorb the needed air from the atmosphere.

Any one who has carefully examined the gill-fringes of a whiting or pike must be convinced that these tender organs will be injured by muddy or impure water, just as our lungs are injured by inhaling bad air or air filled with particles of dust. The first point to be observed, therefore, should be to prevent water, in which fish are to be kept, from becoming impure by the refuse from factories, mines, etc. Refuse floating in the water will exercise some chemical, but principally a mechanical, influence by constantly irritating the respiratory organs. In this respect the refuse from wood-turning establishments must be considered as dangerous, for the fine particles of wood-fiber will easily adhere to the gills and form a basis for fungous growth. This may easily affect the entire fish, and if a river contains a great quantity of small particles of wood-fiber there is danger that all the fish in it will perish. Trout are particularly liable to be affected by this kind of refuse, and many cool and clear brooks would contain a much larger

number of these fine salmonoids if there were fewer paper factories and wood-turning establishments in their valleys. If the refuse contained in the water is not of a soft and flaky character, but is hard, the fish are exposed to hurtful influences of another kind. One of our most prominent zoologists, the late Professor Von Siebold, of Munich, has proved that fish kept during continued rainy weather in a fish-tank, through which passed the water of a brook rendered impure by mud containing small particles of quartz, became totally blind. In this case the constant mechanical irritation produced by small particles of quartz had caused inflammation in the eyes of the fish. They had also received actual injuries in their gills.*

It will be evident that water, as well aerated as possible, and as clear as possible, is the first and self-evident condition required wherever rational fish culture is to be carried on. The water, however, is not merely the medium of breathing, but is the bearer of food to the fish. If they are to prosper and increase they need a superabundant quantity of food, consisting mainly of living organisms. These in turn need food themselves. But this can be furnished only if the banks are fringed with aquatic plants and if the mud settling at the bottom contains a great deal of humus, so that it may form a food-supplying substratum for numerous microscopic algæ (*Desmidiaceæ*, etc.) All the numberless infusoria and lower crustaceans (varieties of *Cladocera* and *Cyclops*) contained in our waters find their food in this microscopic vegetation, and are, therefore, directly dependent on it. As the young fish live principally on the above-mentioned crustaceans and infusoria, it is evident that anything which causes a decrease in the vegetation of the waters (beyond a certain degree) must exercise an injurious influence on the life and increase of fish. The various organisms in nature are dependent upon each other to a wonderful and complicated degree, and the great in nature is by various ways and means connected with the smallest. When we see refuse and impure fluids from a factory pass into the beautiful clear water of a brook, we think in the first place only of the direct injuries to which fish will thereby be exposed. But the indirect injuries are much greater, because they extend not only to the present generation, but to the organic conditions of life, which, if endangered, will make it questionable whether any fish will in the future be able to live in such water. By the settling of insoluble mineral particles at the bottom of a river its microscopic vegetation is gradually killed, and the immediate consequence of this will be that those animals which live on fresh or decayed vegetable matter will disappear. In consequence of this the young fry, if any is raised, is insufficiently fed, and comparatively few fish reach sexual maturity. In this way the fish of our brooks and rivers are constantly decreasing, and, as we have seen, from natural causes, which can be misjudged only by persons who have never studied the needs of fish.

The degree to which the abundance of fish in large water areas is dependent on very small (partly microscopical) animals, which entirely escape the attention of the casual observer, may be observed in the large diluvial lakes in the

* "Über die Lebensbedürfnisse der Fische." From *Mittheilungen des Westpreussischen Fischerei-Vereins*, No. 5, Danzig, March 4, 1886. Translated by H. Jacobson.

* From a valuable pamphlet on the pollution of water, by Dr. Leuckart, the famous Leipzig naturalist, published by Friedrich Schell, Kassel, 1886.

north of Germany. Last summer I investigated the waters of Holstein, Mecklenburg and Pomerania, and am able to state, as the general result of my investigations, that those lakes which, among the rural population, had the reputation of being particularly rich in fish were also particularly rich in crustaceans, worms and infusoria. With a fine gauze net one can in a few minutes catch myriads of small crustaceans and rotifers, so as to cover the bottom of the net to the depth of over an inch with a thick mass consisting entirely of diminutive animals. A person who has not seen the great mass of these little animals brought up at a single haul has no idea of the enormous quantity of living beings contained in a lake with an area of several square miles. An inexhaustible wealth of life moves in the clear waters of such a basin; and in exact proportion to the quantity of small crustaceans and infusoria will be the product of fish.

THE OLD AND THE NEW.

EDITOR AMERICAN ANGLER:—I have before me two printed papers—one the clear, bright, crisp copy of THE AMERICAN ANGLER, No. 13, Vol. XII; the other, a time-stained official copy of the "Laws enacted in the third sitting of the seventh General Assembly of the Commonwealth of Pennsylvania, which commenced in Philadelphia on Thursday the Fourteenth Day of August, in the year of our Lord One Thousand Seven Hundred & Eighty and Three."

The first calls my attention to John Wesley's forty-second sermon (on dress) i. e., "Cleanliness is indeed next to Godliness;" the other to the ceremonies of the mummies of the date of Rameses II.—it seems to have jaundice.

That crisp copy of THE ANGLER quotes from the Milford (Pa.) Dispatch to show "that the complications of the fishing laws are not wholly confined to our own State."

I enclose an excerpt from the time-stained document, with its long "f"s, its curliques "c"s, and its quaint phraseology, but I have no doubt as to its meaning.

"I have no hesitation in saying and I say it boldly" that my native State, for which no man can have more respect than I, cannot without the approval of her sister State, New Jersey, exempt the river Delaware from the legal commandment which says that you shan't slaughter fish.

SCULLS.

An ACT to ratify and confirm an Agreement made between Commissioners appointed by the Legislature of the State of New Jersey, and Commissioners appointed by the Legislature of the State of Pennsylvania, for the Purpose of settling the Jurisdiction of the River Delaware and Islands within the same.

PREAMBLE.

Sect. I. WHEREAS Commissioners duly appointed on the Part of the State of New Jersey, and Commissioners duly appointed on the Part of the State of Pennsylvania, for the Purpose of settling the Jurisdiction of the River Delaware and Islands within the same, have executed two Instruments of an Agreement for the Purposes aforesaid, one for each State, which Agreement is contained in the following Words:

An Agreement made and concluded between George Bryan, George Gray, William Bingham, Commissioners ap-

pointed by the Legislature of the State of Pennsylvania for settling the Jurisdiction of the River Delaware, and Islands within the same, and Abraham Clark, Joseph Cooper and Thomas Henderson, Commissioners appointed by the Legislature of the State of New-Jersey, for the like Purpose.

WHEREAS Inconveniences and Mischiefs have arisen, and hereafter may arise, from the Uncertainty of Jurisdiction within and on the River Delaware: Therefore to prevent the same, and in Order that Law and Justice may in all Cases hereafter be executed and take Effect within and upon the said River, from Shore to Shore, in all Parts and Places thereof, where the same River is the Boundary between the said States, the said Commissioners do agree and establish, for and in behalf of their respective States, in manner following; that is to say

First. It is declared that the River Delaware from the Station-Point or the North-west Corner of New-Jersey, northerly, to the Place upon the said River where the circular Boundary of the State of Delaware toucheth upon the same, in the whole Length and Breadth thereof, is and shall continue to be and remain a common Highway, equally free and open for the Use, Benefit and Advantage of the said contracting Parties. Provided nevertheless, That each of the Legislatures of the said States shall hold and exercise the Right of regulating and guarding the Fisheries on the said River Delaware, annexed to their respective shores, in such Manner that the said Fisheries may not be unnecessarily interrupted during the Season for catching Shad, by Vessels riding at Anchor on the fishing Ground, or by Persons fishing under claim of a common Right on said River.

Secondly. That each State shall enjoy and exercise a concurrent Jurisdiction within and upon the Water, and not upon the dry Land, between the Shores of said River, but in such Sort nevertheless, that every Ship and other Vessel while riding at Anchor before any City or Town in either State, where she hath last laded or unladed, or where it is intended she shall first thereafter either lade or unlade, shall be considered exclusively within the Jurisdiction of such State; and every Vessel fastened to or aground on the Shore of either State shall in like Manner be considered exclusively within the Jurisdiction of such State; but that all Capital and other Offences, Trespases or Damages committed on said River, the juridical Investigation and Determination thereof shall be exclusively vested in the State wherein the Offender or Person charged with such Offence shall be first apprehended, arrested or prosecuted.

Thirdly. * * * *

Fourthly. * * * *

In witness whereof We the Commissioners of the aforesaid States have set our Hands and Seals to two Instruments of the Agreement, one for each State, dated this Twentieth Day of April, Anno Domini One Thousand Seven Hundred and Eighty-three.

Abraham Clark, (L. S.) George Bryan, (L. S.)

Joseph Cooper, (L. S.) George Gray, (L. S.)

Thomas Henderson, (L. S.) William Bingham, (L. S.)

Sect. II. Be it therefore enacted, and it is hereby enacted by the Representatives of the Freemen of the Commonwealth of Pennsylvania in General Assembly met, and by the authority of the same, That the aforesaid Agreement, and every Article, Clause, Matter and Thing therein contained shall be, and

the fame is hereby fully and amply ratified and confirmed, and shall be and ever hereafter remain in force agreeably to the true Tenor and Extent thereof.

Signed by Order of the House.

FREDERICK A. MUEHLBERG,

Speaker.

Enacted into a law at Philadelphia on Saturday, the twentieth day of September, in the year of our Lord one Thousand Seven Hundred Eighty and Three.

PETER Z. LLOYD,

Clerk of the General Assembly.

SHADE-FISHING.

[From the English Fishing Gazette.]

Shade-fishing for trout, as practiced in the North of England, is, I fancy, but little known by South-Country anglers. A short account of it may interest some of your readers, and as every known bait at which a trout will look is pressed into the service of the shade-fisher, those who do not confine themselves to the use of the artificial fly may find something to amuse, or even, let me hope, instruct them. As soon as the rivers begin to run low and clear in summer, the shade-fisher looks up his tackle, and makes preparation for his favorite sport. On hot, sunny days, even early in June, the trout begin to seek the shelter of trees and bushes which overhang the stream. There, in the grateful shade, they sail slowly backwards and forwards, now rising with a languid air to suck in a fly or beetle which has fallen half asleep from its resting-place on the underside of some broad, overhanging leaf, and is floating helpless down the stream, now turning with a sharp and eager motion at the flop of some fat caterpillar as he falls with a splash into the pool. Nothing seems to come amiss to the trout under such circumstances—crumbs of bread dropped in will be scanned for a moment with surprise, but eventually swallowed. Snails taken out of their shells will be accepted freely, and even the eyes from bird's-eye tobacco are sometimes taken by the trout as they float over him, but are ejected from his mouth with a promptitude and vigor which is amusing; and if you can manage to deceive the same trout more than twice in that way on the same afternoon you will be clever.

I have always been most successful in shade-fishing in July, and again in the end of August and the early part of September. As soon as the nights begin to get chilly there are certain flies which may be found sitting on the stems of bushes, and the underside of boughs which overhang the water, in a half torpid state. Every now and again a passing breeze will shake them off, or, in their sleepy condition, they let go their holds and drop into the mouths of the expectant trout. On such days I have seen rare baskets made. I remember one, made long years ago by an old miner on the Coquet, which made me ask him to initiate me into the mysteries of shade-fishing. I had started one morning in August from Acklington Station, which is about a mile from the part of the river where I used to begin fishing, and had fished up to Felton. My basket when I got back to the station would have been called a fairly good one. I had over two dozen trout, and they were of average size for that water. On the platform

was an old miner whom I knew waiting for the train. I gave him a small drink from my flask, and asked how he had got on. He said he had done well, and opened his basket. At first I could hardly believe my eyes. He had seven or eight trout, the smallest of which must have been at least three quarters of a pound, and the largest weighed 3 lbs. I weighed the fish carefully with my scales. That there were such fish in the Coquet was a revelation to me, and I determined to find out how they were to be caught. Some of the old hands about that country were very shy of giving information; but whether my whiskey had warmed this old man's heart, or whether he was more communicative than others, he was quite ready to tell me all about it. We were going by the same train to the same station, and before our journey was over it was arranged that I was to have a lesson in shade-fishing as soon as possible. I became very fond of it, and have killed some fair baskets, but never could come up to the achievements of the masters of the art. Instead of telling about my own lessons and performances let me describe the proceedings of my master.

As soon as ever the hot weather began to drive the trout into the shade, he was to be seen wandering along the river bank smoking his pipe in a meditative mood, and now and then peering through a bush or round the stem of some overhanging tree. He never started on a shade-fishing expedition till he spotted some good trout, and had taken stock of all the difficulties of the situation, and perhaps cut some boughs which would have fatally interfered with his success. But all this had to be done with care and secrecy, because there were keen eyes sometimes watching him, and a slight indiscretion on his part would have betrayed the whereabouts of the trout which he had spotted. One evening a message was brought to me that he would be at a certain spot at 8 o'clock the next morning, and that he was going to try for two or three good trout, which he had discovered on Sunday afternoon, and that if I would meet him he would show me his way of going to work. Punctually I met him—sandwiches, tobacco and whiskey were not forgotten; and after some half-hour's walk we arrived at the proposed scene of operations. There was a small wood on a steep bank overhanging the river, and about the middle of it at the tail of a fine stream was a quiet pool. The water was from 3 ft. to 5 ft. deep under the bank, flowing with a gentle current, and no ripples on the surface except when a slight breeze might ruffle it for a moment. Fine and quiet weather is absolutely necessary to successful shade-fishing.

"Now, sir," said my master, "sit down here a minute while I go and have a look; it will be half an hour or more before the shade will be right, and I want to have a good look before I put my tackle together."

He crept carefully forward to the edge of the water, and, taking advantage of each bit of shade and each bush and tree stem, he peered cautiously into the depths. At last he came back to me apparently well satisfied.

"I've seen the three I'm after," he said, "and I think there is a bigger one; but the water is deep where he was, and no shade over me, so I could not make sure."

With that he began to put his rod together, and having run the line through the rings, and put on a cast line of fine gut, which had been kept wet between two pieces of

flannel, he told me to watch him, and when he was well settled into his place to creep cautiously down behind him, and on no account let the trout get a sight of me. As soon as he was seated behind the stem of a big plane tree, which slanted out over the water, he made me a sign, and in a minute or so I was beside him. The water was clear, about 4 ft. deep, and at the bottom were some big stones.

"Now," he said, "sit still whatever happens, and look at that big stone with the white spot on it; you will see a trout soon." (I do not attempt to write his Northumbrian dialect, because I cannot spell it.)

I began to get quite excited. The water in the middle of the river was very deep, and one could see the bottom shelving down into what seemed an unfathomable abyss. What monsters might not be hidden in those dim depths! Almost before the old man had done speaking I saw a shadow slowly cross the stone. It was a trout of about a pound, which turned and swam slowly back again and vanished.

"Why don't you fish for him?" I whispered.

"Wait a bit; there is a better fish here, and I must find out what they are taking. You watch while I get out my things."

With that, from his basket and from pockets innumerable he produced boxes and tins, and horns and bottles, which he arranged close to him so that he could reach any one of them without moving more than was absolutely necessary. I found afterwards that these various receptacles contained all sorts of insects, grubs, caterpillars and worms; there were flies of various sorts, from the buzzy blue-bottle to the common house-fly to strange flies which he had caught in the woods; there were great docken-grubs (a large white grub sometimes as big as the top of one's thumb, which is found at the roots of the dock), worms of various sorts well scoured in moss, caterpillars from the gooseberry bushes, wasp grubs, and one or two of what we used to call hairy bears. His proceedings drew my attention from the water for a moment, and when I looked back there was a fine trout motionless just above the stone.

"Look," I whispered, "There is a good one just over the stone."

Slowly the old man's hand sought a horn close to him. Without moving his eyes from the trout he got out a fly of some sort, gave it a nip, and flipped it into the water a foot or two above the fish. Slowly it floated over him, but he simply looked up and did not move. Another fly was flipped in with the same result, but was taken by a small trout a few yards below us. Another kind of fly was tried with no better result, and then a small red worm. I saw it fall about two yards above the trout and sink slowly down, wriggling to the bottom. The fish moved slowly up, opened his mouth, and the worm was gone.

"He's ours," said the old man, and chucked him another small worm.

"But why don't you fish for him?" I murmured.

He explained to me that it was absolutely necessary to wait till the fish moved. But he put a nice little red worm on his hook, and made all ready for a cast. Suddenly the fish turned round, and swam slowly down the stream past me.

"He's a two-pounder," I said.

"No, not so big," was the answer. "You will be able to weigh him soon if he does not break me."

Then, as quickly as possible, his rod was put out, the worm dropped on to the top of the stone, and the gut made to lie *along the bottom* (to have gut hanging down to the worm is fatal in shade-fishing with shy fish), so that it was practically invisible.

While watching the worm wriggling on the stone I was aware of a shadow moving slowly up the water. It was our trout. With calm dignity he sailed up to the stone, seemed much surprised to see the worm, then bowed his head and sucked it in. I could see the whole operation as plainly as if it had taken place in a glass bowl in the window of my room. Then there was a rare fight. We neither of us moved more than we could help, and at last the net was under him, and I had the pleasure of weighing and admiring as fine a pound-and-a-half trout as I had ever at that time seen. We wetted him, lighted our pipes and looked out for more sport.

While we waited my instructor tried to instill into my mind some of the principal maxims of the shade-fisher.

First and foremost, never be in a hurry. When you have spotted a good fish examine the place well and take careful note of everything which may prove to be a hindrance or a danger should you hook your fish. Make up your mind what you will do supposing this or that to happen. In the excitement of a struggle with a big fish, particularly if one is among thick bushes and overhanging trees, a beginner is apt to lose his head, and that means loss of fish also.

Secondly, try and find out what he will take before you make a cast for him, and never worry him long by dangling a fly over his nose, for which he has plainly no taste.

Thirdly, never let the fish see you put your rod out over the water. When big trout are feeding in the shade they generally swim slowly up and down, taking a regular beat. As a rule, if they are swimming near the top of the water they are taking flies; if near the bottom, worm, or grub, or minnow will be most effective. When a good trout has passed you put out your rod quickly before he returns. If you are using fly let it be hanging about an inch above the water, that the trout may see it as he comes back. Your rod must be perfectly still, and, if possible, under an overhanging bough, so that it may not appear against the sky. If the trout looks up at the fly and pauses, or slightly raises his head, drop it gently on to the water and the odds are that he takes it at once. If he takes no notice of it let him pass without moving it, and when you see him turn to come back drop the fly on to the water and give it the slightest possible movement to attract his attention. If he will not have it, take it away when he is not looking, and try some other fly or some kind of bait. If you are using worm or minnow, always try and get your bait into position on the bottom, *with the line lying along the bottom*, before the fish sees it. If you once frighten or raise the suspicion of an old shy fish, the odds are ten to one against you for that day.

While I was being thus instructed the old man got another trout of about a pound, and missed a smaller one. He then said we had better move, and that the shadow was just right for the place where he had seen what he thought was a real big one. We moved about twenty yards down

the bank, and on looking over I saw that the water was much deeper, 7 ft. or 8 ft. at least, I should think. For some time we saw nothing. Suddenly my old friend said, in a hushed voice:

"Look there, just below you, about three yards out."

I saw what at first I took to be a log of wood. But slowly out of the depths came what I supposed was an enormous trout.

"It's a salmon," whispered my companion; "a 15-pounder!"

It was really a big bull trout; but they call them salmon in Northumberland sometimes. Most men would have tried for him and got broken; not so the cunning old hand to whom the luckless fish had shown himself. He said, quietly;

"Come away; I shall have him this evening or to-morrow morning."

We moved away, and with fly and worm we made up a basket of about six or seven nice trout, the largest a little over 1½ lb. About three o'clock we started for home, the old man saying he must prepare his tackle for the salmon.

Next day he brought it to me as a present. The mark of the gaff was plain enough; but I could find no mark of a hook in its mouth. However, it is not good manners to look a gift salmon in the mouth, so I said nothing, kippered the salmon and ate him.

I got very fond of shade-fishing, and had many a pleasant day at it. It is a style of fishing eminently suited to elderly men; and should I be spared to become an old man, I look forward to quiet days in lonely woods which overhang a certain river, where I may sit and watch the trout if I cannot catch them, indulge my passion for the beauties of nature, and—

"There meditate my time away.
And angle on, and beg to have
A quiet passage to a welcome grave."

ENGLISH NOTES.

BY W. AUGUST CARTER,

(Of the National Fish Culture Association, South Kensington, London.)

COARSE FISH CULTURE.

Hitherto the science of fish culture in this country has been almost exclusively applied to the improvement and propagation of *Salmonidæ*, which is natural considering its usefulness could not be better directed, but now that pisciculture has o'erstepped the bounds of novelty and has become a recognized motive power in our midst, it is time that it should be extended to the humbler denizens of river and stream, including the perch, roach, dace, gudgeon, tench, bream and barbel. This class of fishes is not nearly so plentiful as formerly, and riparian owners and others interested in the subject are crying out against the decay that is yearly becoming more and more manifest. Applications are continually being made by such persons from all parts of the United Kingdom for supplies of coarse fish with which to replenish their stock or populate desert waters, but such requests cannot be complied with and pass by unheeded. We therefore require a system inaugurated whereby these fish can be reared and cultivated, in the same way as salmon and trout, and distributed among barren streams and

ivers. Recognizing the importance of this work, the National Fish Culture Association have commenced operations at Delaford Park and laid out a series of ponds in which to propagate these fish. There are already a fair number of them in the ponds, among which is the German carp. The English carp is far inferior to that of Germany, the former being a lean, unpalatable and worthless fish, while the latter is well-flavored, toothsome and capable of growing rapidly. This being the case, Mr. W. Oldham Chambers imported for the association last year a large number from Germany, with most successful results. They consisted chiefly of the scale and mirror carp, and a large quantity on arrival were turned into various waters in the provinces, the remainder being retained by the association. During the spring many of the fish spawned with the result that there is now a goodly quantity of young carp in the rearing ponds, so that German carp culture may be said to have been established. This is an instance of the association's desire not only to propagate indigenous species, but to improve, as far as possible, the different strains. Of course the condition of the fish is dependent upon the food upon which they subsist, and the association is not neglectful of this fact in that it provides them not only with plenty of natural food, but also with a specially prepared dietary which imparts to the fish a rapid growing capacity. It will be noticed that I have omitted from the list of fish desirable for cultivation, the pike. To the angler the omission must occasion a pang of regret, but his views are too much tinged with common sense to allow his personal motives for sport to clash with the interests of the general public. If we are to fill our waters with finny creatures we must keep out the pike as much as possible, or at all events discourage their introduction, otherwise the efforts of the pisciculturist will be of no avail. I should be sorry to see the interests of the angler become opposed to those of the fish cultivator who is frequently benefiting the condition of fishable waters, but I do not think this is likely to occur if the former view the matter from a proper standpoint. We have far too many pike in our waters in comparison with the numerical proportion of less hungry and harmless fish. To increase these latter is the object and duty of the national fish culturist, but at the same time he must prevent the natural balance being destroyed by encouraging the introduction of fish that will nip in the bud the growth of such predacious fish as the pike by devouring their ova. Fortunately pike spawn is regarded as a delicious edible commodity by certain fish, otherwise I fear our waters would teem with river sharks.

In regard to the artificial incubation of coarse fish ova as is done with those of *Salmonidæ*, I fear this would prove a very difficult matter. I am quite aware that it has been effected in certain instances, but I doubt whether it can be profitable performed upon a large scale. I find that much injury is done to the eggs during the process of extruding them artificially from the hen fish, the ova being less durable than those of *Salmonidæ* and incapable of withstanding the slightest pressure. It appears to me that the best and most efficacious manner is to allow the fish to spawn in ponds naturally and remove the ova when hatched as quickly as possible to empty ponds and there leave them to hatch out. The action of the association in devoting its energies to coarse fish has met with much encouragement and applications for grants of fish have already arrived from all parts of the country.

Notes and Queries.

FISHING NOTES.

Fine catches of large weakfish are reported from the coast near Atlantic City and it seems likely that the schools of this excellent and gamy fish are working their way southward for the winter.

During the past season upward of ninety millions of fish of every variety, taken from the various Canadian Dominion Government hatcheries, have been given their liberty. The great lakes are being gradually restocked with whitefish, the American Government also cooperating in the work. Various kinds of trout as well as pickerel and bass are also propagated by the Fisheries Department.

They have discovered a clam mine in Ipswich, and it is so valuable that they are arresting all outsiders who trespass on the diggings. No clam diggings were ever known here like these. The clams in number, size and quality surpass anything ever seen before. They lie so thickly packed together in the mud, and are so easily gathered, that even a green hand at clam digging can easily earn \$4 per day at the work. The value of the bed is estimated at \$50,000.

Mr. H. Lowenstein, writing us from Eltingville, S. I., says: "I have great sport near my place catching striped bass, which are plentiful now and of good size. I caught last week fifteen in two hours. This week, on Monday, in one and a half hours, twenty-seven, weighing from $\frac{1}{2}$ lb. to $3\frac{1}{2}$ lbs. each. Wednesday I caught eight in a short time, all good size. This afternoon, in a very short time, I caught four, three of them weighing $1\frac{1}{2}$ lbs. each and the fourth 10 lbs. good weight. When I saw him in the boat I went home.

Our correspondent "Wild" writes from Red Bank, N. J., the following: "We have enjoyed first-class fishing this season and it still continues. Small bass have never been so plentiful, that is, for the last twenty-five years. Crabs are getting scarce, and the old hands have taken to trolling. This may not be considered scientific, but a 4-lb. black bass fastened to a phantom minnow fifty yards away gives some sport. I took forty-one bass Tuesday and nineteen Thursday. Crabs still continue to shed.

Key East (N. J.) is profiting by the surf fishing for striped bass which has recently become so popular along the coast. Casting from the beach with rod and reel for this gamy and excellent fish is one of the most attractive methods of salt water angling, and affords ample opportunity for the display of skill and good judgment. Speaking of Key East, the Philadelphia *Star* says: "In fact, the fishing here has been the incentive for the erection of at least four beautiful cottages within a short time, with others in contemplation. Many lots have changed owners within the past season, on most of which large advances in prices were obtained."

In THE ANGLER of the 24th of September, under the head of "Fishing Notes," allusion was made to the capture of mullet with "a small Buel spoon." Messrs. Rockwell & Kinne, of Jacksonville, Fla., in a letter to Messrs. Abbey & Imbrie, the well-known firm of fishing tackle dealers in this city, make the following correction regarding the make of spoon used on this occasion:

THE AMERICAN ANGLER of the 24th inst. states that Lucius Tuttle, of Jacksonville, Fla., caught a mullet weighing three and a half pounds on a small Buel spinner. It was caught on one of your No. 3 oval fluted spoons, which the writer, who was present at the time, loaned him. As it is the only case on record of a mullet taking a spoon, we thought it might be worth something to you to have the statement corrected. The mullet was not caught foul, as very often happens, but two of the three hooks were firmly imbedded inside of its mouth.

The Philadelphia *Record* reports that a black bass measuring $20\frac{1}{2}$ inches and weighing over 4 lbs. was captured last week in the Neshaminy Creek, near Newton, by Wilson Lefferts.

The Newark *Sunday Call* remarks that the only places in New Jersey where lake trout seem to have flourished since the great planting in 1879-81 are in Culver's and Long ponds, Sussex County. A 3-pounder was caught in Long Pond last month, and several have been taken during the last three years from both ponds.

Charles Voorhees, of Somerville, was at Budd's Lake on Tuesday, and caught sixteen black bass weighing from $1\frac{1}{2}$ to $4\frac{1}{2}$ lbs. The total weight was 34 lbs.

Tomcods and striped bass are said to be biting freely in the Hackensack River.

The West Haven (Conn.) *Budget* reports the capture on the 1st instant of several good hauls of blackfish and flatfish which had been left in shallow water by the receding tide. One gentleman caught thirteen large frost fish, some of which weighed nearly a pound. This season on the eastern coast has been an unusually profitable one to fishermen, and also an exceedingly enjoyable one to sportsmen.

Since last writing we learn that the weakfish have not yet left this coast. They were plentiful near Atlantic City during latter part of last week.

The fishing in Shark River is reported as excellent and striped bass and weakfish are still running freely in Barnegat Bay.

And now comes the Bangor (Me.) *Commercial* with the following extraordinary tale of the sea:

A young man at Fort Popham, Me., the other day caught a cod which probably weighed thirty pounds and which he placed in a large hogshead and so kept it alive. When the party went out into the water the young man harnessed up the cod with stout twine and placed him in the water. He had a great deal of sport, and finally, after considerable persuasion, allowed a young lady to try his sea horse. A life preserver was procured and fastened on her and she grasped the reins holding the large cod. The fish started out for deep water at a rapid pace. The young lady, becoming uneasy, dropped the reins, but they caught in her feet, and if a party had not gone to her rescue in a sailboat the result would have been disastrous.

A QUERY AND A QUEER FISH.

A friend of mine, a high authority in matters piscatorial, persists in hurling big fish at my head, although he knows that I am no longer preparing copy for that remorseless typo-in-chief up stairs at THE ANGLER office, who used to paralyze me with his inexorable demands on publication day. He says that a trout (*S. fontinalis*) was picked up on Loon Lake, Franklin County, this State, on the 5th of June last, which weighed six and one-half pounds, was twenty-three inches long and thirteen inches girth. Query: Was there ever a trout of this species caught or found in this State to equal or exceed this weight? My correspondent does not say that he saw this fish, and I should fail to sustain my repute as a doubting Thomas in the matter of extraordinary fish weights reported for the press, were I not to presume that his personal inspection would have developed a lake trout, commonly misnamed in northern New York a salmon trout (*S. namaycush*.) The Bomoseen Lake big black bass fiasco—that enormous fish was found dead too—has made me more than ever critical, much as I desire that the Empire State may take the lead in her water products. Maine is the only State ahead of old Excelsior for brook trout weights as far as my knowledge goes.

Were THE ANGLER taken by every man in the State who wets a line for sport or profit, as it ought to be, no doubt we should see some surprising records, and "A. N. C." would have to look to his small-mouth black bass laurels. This reminds me that a Clayton (Jefferson County) friend wrote me in August as follows: "Last evening I saw a small-mouthed black bass which was said to have weighed six pounds on each of two scales. I saw it measured; length twenty-one inches and girth sixteen. It was taken on rod and line, with bait, within about two miles of Clayton." That was a splendid specimen of the species, and Brother Cheney may take notice that the St. Lawrence River, by the help of the Anglers Association of that ilk, may yet outdo his famous pet Glen Lake. My correspondent says that the fishing in the St. Lawrence this season has been the best in fifteen years. He commends heartily that portion of the last report of the State Fish Commission which treats of the mascalonge, and expresses his decided belief that in due time, with experience and proper appliances, this noble game and food fish may be successfully propagated.

Two years ago THE ANGLER printed a letter of mine, written at Theresa, Jefferson County, in description of Butterfield Lake and its finny treasures. A few days ago, in company with Mr. James W. Whelpley, Assistant Treasurer of the United States at Washington, I had the pleasure of a close acquaintance with some of its finest fishes, weighing in the aggregate about thirty pounds and listed as follows:

Three large-mouth black bass, 9 small-mouth black bass, 1 wall-eyed pike, 2 pickerel (*E. lucius*), 15 yellow perch, 1 dogfish.

I know of no better lake in New York for black bass and pike-perch, and good boats, good oarsmen and plenty of bait are always at command and Mr. Alson Orendorf, of the Dollinger House, is wide awake and takes good care of his angling guests. Red wood, a station on the Utica and

Black River R. R., is at the head of the lake. One arrives there from New York at about 10 A. M., after a night's sleep on the 9.15 P. M. train and a breakfast at Lowville, Léwis County.

The dogfish was a six-pound fish and fell to Whelpley's light rod and made things very lively for a few minutes. Not knowing that Butterfield contains this singular fish we both thought to boat the boss black bass of the lake, as the fight was not that of the pickerel or pike-perch. W.'s rod was bent nearly double and mostly under water a part of the time, and his eager comments expressive of the alternations between hope and fear and quite audible exultations when *Amia calva* was safe in the landing net were memorable. John A. Grindle (as the fish is called in the Dismal Swamp region of Virginia) was for the nonce a bigger man than U. S. Treasurer Hyatt or Secretary Fairchild, neither of whom could have wired the Assistant Treasurer off his game by ever so urgent a message. The motto of the Bow-fin (his name in Lake Champlain) is "never say die," and you cannot well kill him till you get him into the boat.

Prof Jordan says: "It is one of the most powerful and most voracious of our fishes. It is more tenacious of life than any other, living longer out of water than any, even the species of *Amiurus*. I once kept a specimen alive, out of water, in a warm room, for a whole afternoon, in order to make a water-color sketch of it. Its lung-like bladder enables it to breathe air, so long as its air passages are kept moist, and when out of water it dies only after the shrinkage of its gelatinous and pasty muscles, due to the evaporation of the water they contain. The susceptibility to evaporation of the fleshy parts is one of the peculiar characteristics of this fish." Charles Hallock says: "Their habitat is deep water, where they drive everything before them. Their teeth are so sharp and their jaws so strong that they have been known to bite a two-pound fish in two the very first snap. The young when about six inches long make a famous bait for pickerel and pike. Put a hundred in a rain barrel and you can keep them all summer without change of water." Dr. Estes says: "While the parent remains with the young, if the family becomes suddenly alarmed, the capacious mouth will open and in rushes the entire host of little ones; the ugly maw is at once closed and off she rushes to a place of security, where again the little captives are set at liberty."

In the western States it is frequently called the "lawyer," for the alleged reason, as Dr. Kirtland once told Prof. Jordan, that it will bite at anything and is good for nothing when caught. A writer in the *Chicago Field* says: "These 'ornary' customers are called lawyers because they are bull-headed and slippery." *Poisson de Marais* (marsh fish) is another name, as well as mud-fish. But *Grindle* is a name by which it is perhaps most generally known, and Fred Mather writes: "We fancy the Southern name of *Grindle* for the *Amia* for several reasons, one of which is that no other fish bears it, and another is its striking oddity. The fish bears this name, as we have seen, in nearly all the Southern States and also parts of Illinois and Ohio. Its other names are all shared with other fishes. Besides 'Grindle' covers more territory and is consequently less local than any of the trivial names. But who was old *Grindle* anyway?"

This fish bites savagely, fights with great strength and activity and lasts. Its game qualities and interesting characteristics atone for the worthlessness of the flesh for food.

Brooklyn, September 27.

H. H. T.

HOW RED SNAPPERS WERE DISCOVERED IN THE GULF.

We are indebted to Mr. Charles N. Ely, of Smith's Point, Texas, for the following details of the discovery of the red snapper in the Gulf, as related by Capt. N. B. Yard, one of the old-timers of the Lone Star State:

It seems to me an account of the manner in which red snappers were first discovered off the Texas coast would be peculiarly interesting. It was just after the capture of the fort at Vera Cruz by the French fleet, under command of Admiral Baudin, in the year 1839, and before he sailed away he thought he would visit the Republic of Texas and pay his respects to its inhabitants. He sailed for Galveston, where he brought his fleet to anchor, and remained for some time. He was treated most courteously by the Galvestonians of the day, and the admiral was invited on shore by Mayor John M. Allen and shown the greatest attention. The admiral was so gratified at this exhibition of hospitality that he felt it incumbent upon himself to reciprocate such courtesies, and the result was that a general invitation was extended to the citizens of Galveston to visit him on board his flagship, the Belle Poole, and a party was made up and steamed out on the Zavalla, under command of Captain Hinton.

The Galvestonians were received very hospitably, and the admiral did everything in his power to entertain his guests. During the height of the reception a small vessel came up from leeward loaded down with red snappers and supplied the fleet with any number. It was the first instance that red snappers had ever been seen off the Texas coast, and their discovery dates from that time. Everybody was anxious to know how they had been caught, and the commander of the small vessel soon enlightened the curious. It was a rather singular way of making a discovery, wasn't it? Well, it appeared that the vessel with the red snappers had come to an anchor not far from the coast, and a few of the men suggested that a line be cast over for fish, and pretty soon they began to haul in red snappers until they had filled the craft. They failed to take their bearings, however, and could not locate the banks. When the fact became known pilots went out into the gulf time and time again for the purpose of finding the place, but the banks remained undiscovered for a long time. That, in brief, is the history of the discovery of the red snappers off the Texas coast," said Captain Yard, "and I don't know of any other living man who could tell you what I have just been reciting. That was the first time the red snapper had ever been seen or heard of off the gulf coast, and, as what I've said will show, were discovered in a rather singular manner.

THAT CHAUTAUQUA LAKE MASCALONGE.

I have been visiting your city for the past three weeks, and in looking over THE ANGLER upon my return last Monday, my attention was called to the article entitled, "A Corrected Fish Score," by a correspondent from Sinclairville, signed "Lake Queen," and I find upon investigating a little that "Lake Queen" is correct as to the way in which the

42-lb. mascalonge was caught. I saw the fish on the steamer Cincinnati, and inquired its weight and who caught it. I was told that Jim Rappole did and I took it for granted that he had, and so mentioned it in my letter. Thus far "Lake Queen's" letter is all right, but I take exception to his advertising a manufacturer's tackle, who does not think well enough of it himself to advertise it.

I find bass fishing here not what it should be at this time of the year. Yesterday I angled for two hours and only landed one bass weighing 1½ lbs. I have noticed but very few bass brought in during the past week.

Mascalonge are biting at both spoon and live bait freely, and large strings are caught every day. I landed two on Friday with rod and reel, one of which weighed 8 lbs. and the other 7½ lbs.

I append the score of Jack Nelson, detective for the N. Y., P. & O. R. R., Mr. John Fowler and Mr. John Jones, three expert anglers from Dayton, Ohio. Tuesday, September 27th, they brought in five bass, three of which weighed over 5 lbs, and eight mascalonge; average weight 7½ lbs. Wednesday, 28th, they showed up with a string of six bass; average weight 2½ lbs., and nine mascalonge averaging 6½ lbs. Capt. Chas. Anderson was their guide.

Tom.

"SNOOKS."

In THE ANGLER of September 24th extracts are given from "An Angler's Gazetteer of the World," one of which mentions a fish found at the Cape of Good Hope called the snook.

The name and description correspond with that of a fish of the South Florida coast, "which is something the shape of a pike and even more ravenous."

Professor Goode, in "The Fishery Industries of the United States," gives it the name of Cobia, crab-eater, sergeant-fish and snook (*Elacate canada*), and states that it is cosmopolitan, being found in the East and West Indies, on the coast of Brazil and on that of North America south from Charleston. That it should have among English speaking people the same name in Africa and Florida probably comes from the fact that both of those shores were colonized by Englishmen. Captain Romans does not include this species in his list of the Florida coast fishes in 1775, at least under this name.

I found it abundant in the Indian River of South Florida in winter and took with the rod specimens from two to five pounds. Solitary like the pike, the snook lies under banks and weeds awaiting its prey.

S. C. C.

Marietta, Georgia.

Mr. Thomas H. Chubb, of Post Mills, Vt., the manufacturer of fishing tackle, is now at the Astor House in this city, with a full line of goods, which he will be pleased to show the trade and the craft of anglers. Mr. Chubb will remain at the Astor House during Thursday, Friday and Saturday of this week.

Portraits of Game Fishes, on gray tinted Bristol board, 7x9 inches, at the following prices, post-paid: Single copies, 10 cents; Fresh Water series (23), at \$2.00; Salt Water series (37), at \$3.50; Whole Series (60), at \$5.00. The list includes all the game fishes of American waters. Descriptive catalogue free. Address THE AMERICAN ANGLER, New York.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

THE VALUE OF CRUSTACEANS AS FOOD FOR FISHES.

Concerning the great value of the crawfish and other crustaceans as food for fishes I take pleasure in reproducing the following extract from the report of Prof. J. A. Lintner, of the New York State Museum of Natural History, to the New York State Fish Commissioners, published in the report of 1878.

The matter contained in the extract will be of additional interest at the present time, inasmuch as it involves the question of the desirability of crawfish as food for black bass and sets forth several other matters relative to the food of fishes in connection therewith, which will be of interest to the readers of THE ANGLER; and right here I will say that while it may be possible that black bass will thrive in waters that do not contain the crawfish, still I have never known them to fail to do well in good sized bodies of water that do contain them.

SETH GREEN.

In reference to the influence of the food of fishes upon their color, Mr. Charles Lanman states: "One principal cause for the great variety in the color of the brook trout is the difference of food; such as live upon fresh-water shrimps and other crustaceans are the brightest; those which feed upon May-flies and other common aquatic insects are the next; and those which feed upon worms are the duller of all. . . . Trout that frequent clear and cold waters, and feed much on larvae (Phryganid) and their cases, are not only red in flesh, but they become golden in hue, and the red spots increase and outnumber the black ones. . . . The peculiarity of feeding on shell-fish produced the gillaroo trout, a remarkable variety, found only in the Irish lakes."

According to a statement of Professor Agassiz, "the most beautiful salmon trout are found in waters which abound in Crustacea, direct experiments having shown that the intensity of the red colors of their flesh depends upon the quantity of Gammaridae which they have devoured."

The improvement capable of being made to the natural flavor of fish seems to have been known to the Romans; for it is said of them: "The art of breeding and fattening fish was well known to the luxurious Romans, and many stories are related about the fanciful flavors which were imparted to such pet fishes as were chosen for the sumptuous banquets of Lucullus, Sergius Orata and others."

The fondness, and even preference, shown by many of our fishes for crustacean food is well established. Prof. Verrill, in his "Report upon the Invertebrate Animals of Vineyard Sound" (U. S. Commission of Fish and Fisheries. Report for 1871-'72, pp. 295-773, plates 38), says: "These small crustacea (Amphipods) are of great importance in connection with our fisheries, for we have found that they, together with the shrimps, constitute a very large part of the food of our more valuable, edible fishes, both of fresh and salt waters. . . . Even the smallest of them are by no means despised or overlooked, even by large and powerful fishes, that could easily capture larger game. Even the voracious bluefish will feed upon these small crustaceans, where they can be easily obtained, even when menhaden and other fishes are plenty in the same locality. They are also the favorite food of trout, lake whitefish, shad, etc."

Crustaceans constitute almost the entire food of the herring (*Clupea spomes*), a fish which, from its number and large consumption, is of so much value in the fisheries of both hemispheres. According to a

theory recently advanced by Sars, the migrations of the herring, for a long time unexplained, are controlled by the presence of their crustacean food. He affirms that a rich summer herring fishery depends exclusively on the accidental occurrence of small crustaceans, and their accidental accumulation in certain places favorable to the fisheries. During some years, the sea, near the western coast of Norway, throughout the whole summer, has been filled with great masses of different crustaceans. At such times the fishermen expect to be favored with the presence on their coast of the "herring-mountain"—a high, deep and closely packed mass of herrings.

The shad (*Alosa sapidissima*) eagerly devours crustaceans when they can be obtained. During their presence in our rivers for the purpose of spawning they partake of no food. A microscopic examination of the stomachs of twenty shad (*Alosa vulgaris* of Europe), made at their advent into fresh water, revealed the tarsi, antennae, etc., of microscopic Entomostraceans and other small crustaceans. Nothing else could be recognized.

The whitefish (*Coregonus albus*) was for a long time believed to feed on algae and aquatic plants, but it was ascertained by Dr. Hoy, of Racine, Wis., through a careful examination of the partially digested contents of their stomachs, that they fed mainly on small crustacea, whose presence in the lake had not been suspected.*

Similar examinations, instituted by Mr. J. W. Milner, of the stomachs of whitefish from various localities in Lake Michigan, confirmed the statement of Dr. Hoy, that the Crustacea constituted by far the larger portion of their food, namely species of the Gammaridae and Mysidae. Associated with these were Molluscan species of *Pisidium* and other genera, together with Phryganid insects. At Sault Sainte Marie the whitefish has been taken with a hook baited with a May-fly.

The favorite food of the black bass (*Micropterus nigricans*) is the crawfish—species of *Cambarus* and *Astacus*, when they can be procured.

The lake herring (*Argyrocentrus chupeiformis*) feeds upon the Gammaridae and insects.

Mr. Seth Green informs me that it is believed that the peculiar richness of the Otsego Lake bass (*Coregonus? Otsego*)—its superiority over that of the whitefish of the lakes, of which it is thought, by many, to be but a local variety, is the result of its feeding largely on a small crustacean, which is remarkably abundant in Otsego Lake.

The food of the salmon (*Salmo salar*), previous to its entering fresh water for spawning, during which period, like the shad, it partakes of no food, consists principally of Crustacea, "this rich aliment giving the color and flavor for which its flesh is so highly prized."

The American smelt (*Osmerus mordax*)—one of the salmon family—feeds largely on the shrimp. They are readily taken with a hook, baited with any of the smaller crustaceans, or pieces of the larger species.

Nearly all our salt-water species feed upon crustaceans from the minute Entomostraces to the large crabs and lobster. Prof. Verrill, loc. cit., pp. 514-521, gives a list of thirty-two species, in the stomachs of which crustaceans, as the principal portion of their food, were found.

ALL-THE-YEAR-ROUND PROTECTION.

According to observations made by Seth Green it now appears that the careful and industrious protection done on the St. Lawrence during the fishing season is not continued late in the fall and is not begun early in the spring when the ice breaks up. The result of this, Mr. Green says, is to open the stream to poachers at the very season when they are able to do the greatest harm.

* MYXUS HELIOZA Leven. The detection of this species in the waters of Lakes Michigan and Superior was a very interesting discovery, not only from its first having been brought to notice in this country, in the stomach of a whitefish, but also from its identity with the species previously known as existing under similar conditions, in the fresh-water lakes of Sweden and Norway. Dr. Sars had found it in Wener and Wetter and eight other lakes in Sweden and in one lake in Norway. Dr. S. regards it as specifically identical with the salt-water form occurring off the coasts of Labrador and Greenland—MYXUS OULAZA; the varietal differences which he finds, he regards as resulting from the interruption of its former salt-water communication. He accordingly designates it as M. OULAZA var. HELIOZA (Smith's "Fresh-water Crustaceans of the United States.")

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

HIGH WATER TABLE OF TIDES FOR THE NORTH ATLANTIC COAST.

[Collated from the United States Coast and Geodetic Survey Tables.]

OCTOBER.

October..	Eastport, Me.	Portland, Me.	Boston, Mass.	Newport, R. I.	New London, Conn.	Sandy Hook, N. Y.	Philadelphia, Pa.	Baltimore, Md.	Washington, D. C.	Old Point Comfort, Va.	Charleston, S. C.	Savannah, Ga.	Fernandina, Fla.	Key West, Fla.
1	10.49	11.08	11.20	7.28	8.35	7.10	0.44	6.09	7.18	8.08	6.53	7.40	6.58	8.33
2	11.20	11.35	11.51	8.03	9.13	7.48	1.21	6.45	8.02	8.42	7.28	8.17	7.35	9.08
3	11.49	.....	0.12	8.36	9.49	8.23	1.58	7.20	8.38	9.12	8.03	8.53	8.11	9.40
4	0.13	0.27	0.46	9.07	10.28	8.57	2.34	7.54	9.13	9.45	8.36	9.27	8.47	10.09
5	0.45	1.00	1.16	9.40	11.06	9.28	3.12	8.20	9.39	10.18	9.11	10.03	9.25	10.41
6	1.18	1.32	1.48	10.10	11.52	9.59	3.52	9.07	10.17	10.55	9.49	10.40	10.06	11.20
7	1.58	2.08	2.23	10.54	.....	10.34	4.34	9.49	10.50	11.38	10.31	11.22	10.51	12.06
8	2.37	2.48	3.05	11.39	0.30	11.15	5.18	10.36	11.45	0.01	11.18	.....	11.42	.....
9	3.24	3.37	3.52	0.07	1.53	.....	6.03	11.29	0.12	0.54	.....	0.24	0.12	0.43
10	4.18	4.30	4.45	1.03	3.08	0.44	7.08	0.00	1.10	1.57	0.37	1.24	1.09	1.45
11	5.17	5.30	5.46	2.17	4.12	1.44	8.14	1.03	2.13	3.03	1.43	2.30	2.08	3.03
12	6.21	6.32	6.48	3.26	5.11	2.62	9.21	2.04	3.21	4.07	2.49	3.37	3.08	4.22
13	7.23	7.32	7.50	4.25	6.03	3.67	10.25	3.11	4.28	5.04	3.51	4.38	4.07	5.32
14	8.18	8.32	8.50	5.21	6.53	4.58	11.24	4.14	5.29	5.58	4.50	5.38	5.00	6.31
15	9.12	9.23	9.44	6.15	7.41	5.56	.....	5.12	6.23	6.51	5.44	6.33	5.92	7.22
16	10.03	10.16	10.35	7.03	8.29	6.50	0.40	6.06	7.14	7.40	6.35	7.25	6.43	8.12
17	10.52	11.05	11.23	7.52	9.16	7.42	1.29	6.53	8.00	8.28	7.24	8.15	7.33	8.58
18	11.40	11.54	.....	8.39	10.05	8.32	2.18	7.40	8.48	9.15	8.12	9.01	8.25	9.40
19	0.11	0.24	0.43	9.25	10.56	9.22	3.10	8.27	9.37	10.04	9.01	9.53	9.16	10.28
20	1.03	1.16	1.35	10.13	11.5	10.11	4.00	9.15	10.25	10.54	9.51	10.44	10.11	11.20
21	1.56	2.10	2.30	11.01	0.10	11.00	4.50	10.07	11.16	11.48	10.44	11.37	11.08	.....
22	2.56	3.10	3.29	11.52	1.08	11.52	5.44	11.03	.....	0.26	11.39	.....	.....	0.06
23	3.58	4.13	4.33	0.36	2.09	0.36	6.41	.....	0.42	1.29	0.12	0.69	0.48	1.07
24	5.07	5.22	5.40	1.41	3.22	1.34	7.40	0.32	1.43	2.37	1.15	2.03	1.46	2.18
25	6.15	6.31	6.48	2.49	4.22	2.34	8.39	1.31	2.42	3.42	2.19	3.06	2.42	3.38
26	7.19	7.34	7.50	3.55	5.15	3.34	9.34	2.27	3.41	4.40	3.17	4.05	3.35	4.52
27	8.14	8.30	8.43	4.50	6.03	4.29	10.25	3.16	4.35	5.30	4.12	4.52	4.22	5.50
28	9.01	9.16	9.30	5.36	6.45	5.19	11.11	4.08	5.23	6.16	5.01	5.47	5.05	6.47
29	9.41	9.55	10.11	6.18	7.26	6.04	11.52	4.52	6.05	6.51	5.43	6.39	5.44	7.29
30	10.15	10.30	10.45	6.55	8.03	6.43	0.11	5.35	6.45	7.32	6.22	7.11	6.20	8.08
31	10.45	11.00	11.12	7.28	8.38	7.20	0.48	6.14	7.22	8.06	6.57	7.47	6.54	8.44

The above table gives the morning tides which are calculated on local time. To reduce to standard time subtract 32 minutes from Eastport, 13 m. from Portland, 16 m. from Boston, 15 m. from Newport, 12 m. from New London, 4 m. from Sandy Hook and 1 m. from Philadelphia. Add 6 m. to Baltimore, 8 m. to Washington, 5 m. to Old Point Comfort, 20 m. to Charleston, 36 m. to Savannah, 34 m. to Fernandina and 33 m. to Key West time. Add 23 min. to Sandy Hook time for Barnegat Inlet tide, or three minutes for Atlantic City tide.

AN ECHO FROM THE ARDENNES.

I was glad to notice in THE ANGLER a short account of my old sporting ground in the Ardennes. I can cordially agree with all you quote in favor of Diekerch and the pleasant hostelry kept by Herr Heck. I found the fishing better in the Wiltz than in the Sûre, and unless I am mistaken my best day on that stream was 145 trout running up to 1½ lbs. weight, but as it is some years since I am not quite certain about the total. I remember, however, that when leaving the Ardennes I wrote to the London Field, and in consequence Heck informed me he had several Englishmen staying at the hotel, who had all been fairly lucky. There is also a good deal of shooting to be had near Diekerch during the winter, battues being frequent. Boar, roe and hare are the game most met with. The two items that stand out with the greatest distinctness through the mist of time are, I find, the following: (1.) That fine old Hock, with a wonderful bouquet, was to be had of Herr H. for 75c. a bottle and (2) good cigars at 6c. apiece.

C. A. B.

Frederick, N. B., Sept. 26.

A MORNING ON LAKE SHIAWASSEE.

I was rather surprised one afternoon last week by the appearance of Deputy Game Warden Connors. Not that he was not a welcome or frequent caller, or that I did not expect him at the late hour he made his appearance, but his excited manner of speech was what startled me. He seemed to have been in search of me through the building, for as soon as he saw me he said:

"Lon, do you want to go fishing? There is some that is elegant now-a-days on Shiawassee Lake. They are catching some large ones, too."

I asked him what made him so excited, as there was nothing startling in that announcement. He said that he just heard there were some fishermen up there with nets, and furthermore, they were using them in direct violation of the fish laws of Michigan. He informed me that if I desired to go to be on hand at 3 o'clock next morning at a stated place, and I would have some fine fishing for my trouble.

I did not see any more of him until next morning, when promptly at the appointed hour I was on hand, but even then I was preceded by "Hank," the warden, who sang out in the dark as I was approaching:

"I knew you would come."

After getting the boats in shape, putting in trolling lines and spoons, paddles and a lunch, we started on our journey up the river through a rather heavy fog. It was quite chilly, but we were rather warm before we arrived at our destination. As we passed the mouth of the Tittabawassee and rounded Green Point I noticed several boats going up the Cass River, and Hank immediately informed me, as he noticed my inquiring look, that there was excellent fishing on that stream also.

That was all that I noticed on the river and as we reached Dead Island, the lower extremity of Shiawassee Lake, the warden informed me that he was going to leave me now and look after the violators. He left me, saying, "When you go up fish on the left side, go close to the mouth of the Ferguson (a small creek that empties into the lake) and you will catch some bass. When you get to the head of the lake take the right side down by Perry's Landing (a place where anglers retire to dry land after they are tired of fishing)."

I went over the course slowly twice and felt the spoon working in good order, but not a bite did I get. On the third trial, just as the sun's rays commenced to permeate the vapor-laden atmosphere, I was more successful. Just as I was passing the Ferguson I felt the spoon stop. Was it a mistake? No. One, two nibbles and I felt he was fast. I worked the line slowly and carefully and landed a two-pound bass, my first catch. Before reaching the head of the lake I had another bite, but lost it. On the return trip I was again in glory, as, when I had reached about half way, I suddenly felt as though a whale had fastened itself to my line. He would come towards the boat, giving me lots of slack line, and then he would suddenly shoot under the boat, making me think I had lost him. He kept up that style, with an occasional jump out of the water, during which time I had given up owning him twice, for a quarter of an hour, when I hauled in the largest fish of the morn-

ing's catch, a shovel-nosed pike. He weighed four and one-half pounds.

I pursued the morning's trolling with varied success. Sometimes I would not get a bite on the up or down trips, but I generally managed to secure one. At 10 o'clock the warden appeared in sight, having been up to the Flint River on a fruitless errand, and said: "Ain't you got enough fish yet?" I informed him I thought I had, and felt quite proud when he looked over my morning's catch—two bass weighing three and a half pounds; four shovel-nosed pike, twelve pounds, and one pickerel weighing a pound and a half. By this time the lake was dotted all over with anglers and we started on our trip homeward.

East Saginaw, October 1.

LON.

(Reached via Michigan Central R. R.—O. W. Ruggles, G. P. A., Chicago, Illinois.)

BAY CITY, MICH., Sept. 25.—A short time ago Mr. Verner and myself went to Long Lake, Alpena County, to fish for black bass, and had some very good fishing, for in two weeks we caught about 120 black bass and about 35 pickerel. The average weight of the bass was 3½ lbs. and the pickerel 5½ lbs. I may state that we did not catch the heaviest fish caught during our stay, as a 6½-lb. bass and an 18-lb. pickerel were taken by an Alpena gentleman whose name I do not remember just now. We did not fish much early in the day, as our fishing was mostly done between 2 P. M. and 6 P. M.

Long Lake is located about eight miles northeast of Alpena, Mich., and is reached by the Mich. C. R. R. and the D., B. C. & A. R. R. There are good accommodations for any one who wishes to stay, and everybody will always be welcomed by old Charley Hall, who will look well after their welfare, and his wife Jane will see that the inner man is well taken care of. It is a beautiful lake and well worth the while of any lover of fishing to spend a week or ten days there. They will always find what they go after—black bass.

D. H. H.

(Reached via Northern Pacific R. R.—Chas. S. Fee, G. P. A., St. Paul, Minn.)

BOZEMAN, MONT., Sept. 24.—Very little fishing has been done in this city since the opening of the hunting season, game and prairie chickens being so plentiful that they offer more sport than the speckled beauties in our mountain streams. Your correspondent has just returned from a half day's fishing on the West Gallatin River, about twelve miles from here, where, in company with another knight of the rod, he had camped since last evening. On our return home we counted 42 trout and grayling out of our baskets weighing 29 lbs., both of us doing a little hunting whenever we got tired of fishing.

J. H. W.

(Reached via New York, Lake Erie and Western R. R. (Jefferson Branch)—L. P. Farmer, G. P. A., New York City)

FULLER HOUSE, GREENWOOD LAKE, N. J., Oct. 4.—Fine weather more at the lake and good fishing again.

W. S. Freeman, Bloomfield, Gid Stormes, guide, 9 pickerel, 15 black bass; largest 3 lbs.

H. Van Buskirk, New Milford, 6 pickerel, 20 bass.

W. P. Rea, Brooklyn, Bob Terhune, guide, 13 bass, 18 pickerel.

E. C. Shepard, Brooklyn, 12 bass; largest 4½ lbs.

W. H. Giesb, Arlington, 10 pickerel, 8 bass; largest pickerel 2½ lbs. Gid Stormes, guide.

Dennis and Sweet, Newark, Jack Finnegan, guide, 7 bass, 16 pickerel.

D. McMullen, New York, Bob Terhune, guide, 7 bass, 12 pickerel.

W. H. Norton and Brother, New York, Dave Gordon, guide, 10 bass, 7 pickerel.

OCEAN.

(Reached via Grand Trunk R. R.—Chicago Branch—W. E. Davis, G. P. A., Chicago, Ill.)

ROUSE'S POINT, Oct. 1.—In Lake Champlain we have had very clear water, and many good catches have been made of black bass and pickerel; three mascalonge have also been caught, one of which weighed 14½ lbs. The prospects are very good, the water being low and clear.

R.

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LAKE VIEW HOUSE, Green Lake, Walworth County, Wis.—The four lakes furnish the best fishing for pickerel, pike, bass and large perch in the State. Fine brook trout fishing within six miles. Sportsman's Paradise. Plenty of live bait. Seven pickerel caught in front of the hotel in one and a half hours in fifty feet of water. Smallest fourteen and a quarter pounds; largest twenty-one pounds. Perch by the bushel. Forty miles west of Milwaukee, thirty-five from Racine via C., M. & St. P. R. R., five miles from Troy Centre station, seven miles from Elkhorn. Orders for conveying guests from the stations will receive prompt attention, or livery can be procured at the stations at low rates for the hotel. Terms \$1 to \$1.50 per day during the balance of the season. Capt. A. W. Grippen, proprietor. C. J. Paige, manager, P. O. Adams, Walworth County, Wis.

We are pleased to announce that Mr. F. D. Divine, of Utica, N. Y., is giving special attention to the making of split bamboo rods. Mr. Divine, it will be remembered, has earned an enviable reputation as a maker of fine bethabara rods and judging from the two split bamboo rods of his make which are now before us, he will be equally successful in the latter line. The two rods referred to are respectively a bait and a fly rod, both excellent in balance and very superior in finish.

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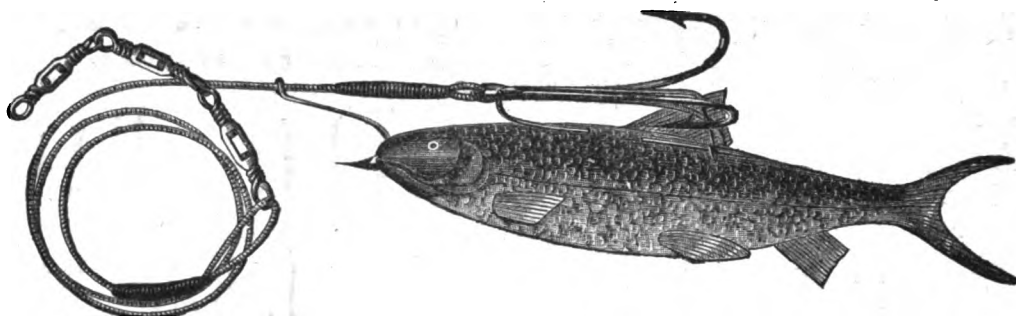
The eleven volumes, handsomely bound in cloth (on Jan. 1, 1886, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
The Carp from an Angling Standpoint. Nov. 19, '81.
Deep Trolling in Fresh Water. Dec. 21, '81.
Chub Fishing with the Fly. Dec. 21, '81.
Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
Modern Tackle and How to Use It. April 8, 15, 22, 29, May 6, 20, '82.
Holding Hard and Killing Quick. April 1, 29, '82.
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When to Strike. May 20, June 10, July 15, '82.
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A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
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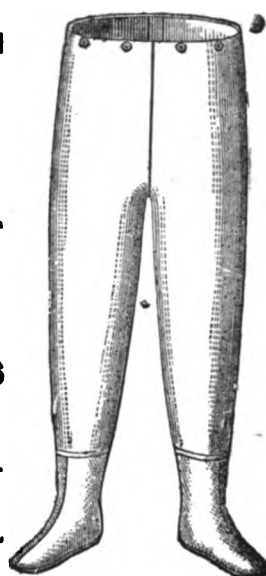
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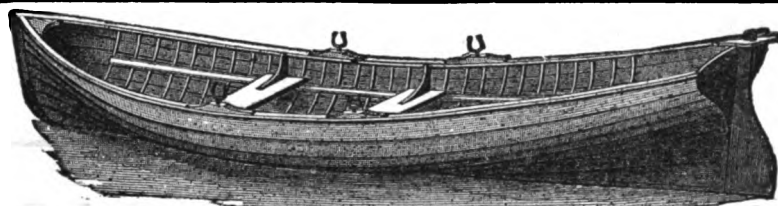
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NEW YORK—CHICAGO, OCTOBER 22, 1887.

VOLUME XII, NUMBER 17.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—262 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Bouverie St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

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THE "SILVER DOCTOR"—INLAND CUSK.

The following letter presents two questions for consideration, both of which have doubtless occurred to many of our readers and we should be glad to hear from them on the subjects:

Editor American Angler:—Having used the "silver doctor" for black bass all this summer and, having purchased it from several makers and no two agreeing in its make up, will you favor me with a description of the "official" colors and arrangement. Some of the flies under this name were taking, while others were not.

I have had an extensive acquaintance with the bass this summer in Lake Winnepesaukee and Lake Wentworth, N. H., and in the lakes of southeastern Massachusetts, Wautuppa, Assawampsett, Quitticus, Poekaha, Elders and Loon, and have had a remarkably long run of luck. My largest score was eighty-three and my smallest 0 (which occurred but once). Grand total, 1,084 for fourteen weeks; average weight, 2.14 lbs; largest, 5 lbs., at Lake Winnepesaukee; smallest

saved, 1 lb., at Wautuppa Lake. It might be well to say that I do not count fish that I do not keep. Baits used were flies, frogs, shrimp, smelt and red perch. Spoon apparently not good.

Can you explain to me how smelt and cusk got into Lake Winnepesaukee? For all I can see the cusk is the same fish as the salt water cusk.

WM. C. HAWKINS,
Stevens Inst. Tech.

Hoboken, N. J., Oct. 13.

There is no copyright covering the tying of flies. Any man may tie any sort of fly and call it a "Silver Doctor" or give it any other name he likes. Of course this gives rise to confusion and ought to be looked upon with disfavor both by anglers and tackle dealers, but there is no "law agin it." The "Silver Doctor" is, properly speaking, a salmon fly, and cannot be tied in the smaller trout and bass sizes of the same material and in the same manner for the much smaller price at which it is the custom to sell the latter. When tied as a salmon fly it has a silver tinsel body; mixed wings, largely composed of golden pheasant with a bright red stripe to set it off; head and tag are red and tail is blue and golden pheasant mixed; the hackle is of blue and brown heath cock mixed. A fair colored representation of it can be found in the Orvis-Cheney collection, "Fishing With the Fly." It will readily be seen that the materials are costly, and it is not strange that so good a fly should be imitated with cheaper goods for the smaller low-priced flies. Placed side by side the difference is quite apparent to the angler and no doubt to the fish as well. We advise you to send a sample of the fly you found effective to some good tackle-maker and have it carefully imitated, keeping in mind the quality of material you wish used and not expecting to get a five-dollar-a-dozen fly for a dollar and a half.

As to the "cusk" in the lake observed by our correspondent we can say with certainty that they are of the fresh-water variety. In general appearance they are not very dissimilar. The fresh-water cusk, however, has a distinct and well defined double dorsal fin. It is the "Lawyer" of Lake Michigan, the "Eel-pout" of Vermont, the "Dogfish" of Lake Erie, and according to Earle the "Lake Cusk" of Lake Winnepesaukee. It is properly the American Burbot (*Lota maculosa*.) The connection between Lake Winnepesaukee and the ocean through the river of the same name might be sufficient to give passage to the salt-water variety, but the fact that it is a deep sea fish makes it improbable that it ever gets into far inland waters.

The Fishes of the East Florida Coast.—Contains a description of the different fishes caught on the Florida Coast, with their habits, modes of capture, tackle, baits, etc. Eleven illustrations. Pamphlet form. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

THE LIE AND THE LIBEL

A FABLE.

One day while on a fishing expedition a Sporting Contemporary met an Able Bodied Lie going the rounds.

"Let's make a night of it," said the Able Bodied Lie.

"It is a whiz," responded his crony.

And it was so. But a Wily Hunter constructed a cunningly devised trap called a libel suit and soon had the pair by the heels.

"I'll be jiggered if it was me," pleaded the Sporting Contemporary, with more fervor than grammar. "Besides, I've always spoken highly of sportamen and entertain a profound regard for them."

"That may all be," retorted the Hunter coldly, "but you train in a bad crowd, and birds of a feather flock together. I guess I must run you both in."

And the Rounders had to spend the night in Durance Vile.

MORAL.—1st. The greater the lie, the greater the libel.
2d. "It was the cat."

GUY HERNE.

For THE AMERICAN ANGLER.

TILL SPRING.

BY GUY HERNE.

The angler heaves a deep-drawn sigh,
A teardrop glistens in his eye;
He sadly lays his tackle by
And lifts aloft this mournful cry:

"The melancholy days are nigh
Wherein no more my tempting fly
Shall yank the trout alert and shy.
The northern blasts, the wintry sky
All thoughts of fishing will defy,
And I must be content to try
My nimble tongue and pen to ply
About the trout I've caused to die.
To raise my name and fame on high
I'll lie, and lie, and lie, and lie
Till spring."

The brook trout meanwhile seems to see
The matter very differentlee.
A marvel of tranquillitee,
He is not ready to agree
With this lament. He says, says he:
"It really does appear to me
That things are good as good can be!
No longer I'm compelled to flee
From pool to pool in an ecstasee
Of fright; no more with 'ghoulish glee'
I'm yanked from my refuge under the lee
Of the shelving rock or the brookside tree.
For the frost and the snow I don't give a D;
From the 'jigger,' the hook and the net I'm free
Till spring."

The Game Fishes of the West.—A practical Angling Treatise fully illustrated. The essays have been written by the most prominent angling authors in America, and this edition is essentially a text book for anglers and lovers of natural history. Paper. Price 15 cents, postage free. Address THE AMERICAN ANGLER, New York.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

THE MOONLIT PERCH

BY SOULLA.

See ye the refulgent moon perched in the cloudless sky?

—Thompson.

White perch can be caught in the moonlight at midnight. There is a bold assertion but—pardon the slang—"there's hair on it," and the pleader asks to submit the evidence upon this single point and claim a verdict on his behalf.

"Where the heart is, there is the home,"

and as my wife and child were, at the time of which I write, eleven miles from the domicile where just one score of people stood one evening a dozen years ago and heard a reverend pastor say solemnly: "Whom God hath joined let no man put asunder;" that was my home for the time being.

It was a little Jersey town that was and is, as far as it may be geographically described, Lat. 39 deg. 58 min. N. and Long. 75 deg. 1 min. W., or at the point where Rancocas Creek empties its waters into the Delaware River at ebb tide.

I have often wondered how the many names were found for the towns, rivers, mountains, people and things that go to make up what in this language we have agreed to call "the world," and when I found the little Jersey town, with whose company I have parted for all time, called Delanco, I began to investigate the derivation of its rather euphonious cognomen.

The ingenious namers of the place and their successors, whom I have rather more than intimated, will be blessed with my absence for all time to come, appropriated the first syllable of the already named glorious River Delaware that flows to the westward, and forms the boundary line over which Pennsylvania and New Jersey have a "concurrent jurisdiction," and then suddenly realizing that the consonants "l" and "r" make not a melodious blending, began again at the second letter of the name of the creek to the southward—the Rancocas evolved the word Delanco, and stopped. They possibly "builded better than they knew," but they certainly spelled better than they builded.

Do you remember Mark Twain's ants, that with lizards crept over the gray rocks of the old road from Damascus, which he likened to the Appian Way and his apology for their presence there, saying "they were there merely to spend the summer. They came from Ain Mellalah, eleven miles, and brought their provisions with them?"

There first I realized what the proverb meant by saying: "Go to the ant, thou sluggard," for in a land of plenty I and my wife and my child were nearly starved.

I had not brought my provisions with me, but all the provender that we had that was fit to eat I had to convey as did those ants—eleven miles; only my base of supplies was not tented Ain Mellalah, but brick-built Philadelphia. I sadly say that this made no reduction on the board bill. The inhabitants—men, women, children, mosquitoes and other vermin—with a unanimity that at first seemed unique and almost amusing, but which soon became exasperating, proceeded to phlebotomize us—body and bank account.

Is there anything ludicrous in boarding at a house the front of which was adorned (?) with the shingle of a so-called disciple of Galen (or rather Hahneman) who an-

nounced in gilded letters on a square piece of japanned tin-plate that the "Doctor will be here daily from 1 to 2 P. M.?"

If the reader had been presented at the end of many weeks with a bill charging two visits every day for medical services to "wife and child," when for the most part neither of them needed any more professional attention than could have been and was furnished by the husband and father, I fear that there would have been rather more profanity than hilarity on the vine-clad porch of that sombre cottage wherein we dwelt. My mind is clear as to the absence of hilarity at the time I was so treated; as to the presence of profanity I prefer not to commit myself, but the bill had to be paid, nevertheless.

I realized at the time that I was "fearfully and wonderfully mad." (The above misquotation arises from the fact that I am out of "sorts" and have no "e's.")

After all, there were some humans, some fish and some fun in that vicinity. There had wandered into the sleepy village one of those peculiar characters that is sometimes met with, who, while mingling with his fellow-men from day to day, is as much a hermit as if he had dwelt in a "lodge in some vast wilderness."

For years he had been living a lonely life, caring only for the companionship of his gun, his boat, his feathered and his finny acquaintances (I won't call them friends, for even a hermit wouldn't kill his friends, while he killed birds and fish whenever he could), but at rare intervals he would unbend to some one with kindred tastes and to whom he took a fancy. When unbent his taciturnity became volubility, and his guns, his rods, his boats and his information were at the disposal of his friend. I was fortunate enough to be one of his fancies.

He told me where I could get bait of every kind—earth worms, brandlings, white grubs, wasp nests, crickets, grasshoppers, beef, liver, sturgeon-roe, *et id omne genus*, so it will be seen that he was not exclusively a fly-fisher, but he knew how to catch fish and seemed glad to tell me where, when and how I could do the same.

Small part of that information was new to me, but when he told me that with hook and line the best time to catch big white perch was at night when the moon and tide were both full and the anglers were not, I learned something.

At first I thought he was "chaffing," but when I found that he was in good, real earnest, I accepted his invitation to try it with him at the first opportunity.

Across the Rancocas, less than half a mile from where it joins the Delaware, is a draw-bridge which enables those who can walk and those who can ride to go backwards and forwards from Delanco to Riverside, except when the draw is opened for some passing sloop or schooner, and even then moderate patience will brook the short delay.

The immediate neighboring residents seldom get in a hurry, except to collect bills, and I must say that they have a particular talent in that line and have carefully cultivated it.

This draw-bridge swings upon a pivot and the motive power which impels the swinging consists of two cranks, one of which is made of iron and is part of the rotating machinery in the middle of the aforesaid, while the other, with his brown hair cut long, smokes his blackened pipe in

a little red box of a house on the southern shore day and night unless there is call for opening of the draw.

When the bridge is turned until its "median line" is coincident with the axis of the stream it seems to get tired and its wise designers provided it with a "rest," a structure made of heavy piling, sheathed with substantial planks and partly covered with a hemlock platform. The open places on each side of the massive stone draw pier were called the "boxes." We were to fish in one of these boxes. The tide was running in and would be full at midnight and the moonlight was deluging the whole neighborhood.

Presenting myself at the boathouse at or rather before the time I indulged myself in the luxury of quoting, "How soft the moonlight sleeps upon this bank," and was met with, "Yes, there's nothing to prevent its sleeping on this bank and the other one is soft enough to sleep on, but there's a right smart chance of mud and chills and fever."

The practical bent of his mind seemed more curved towards catching fish than quoting Shakespeare.

As he was busy fixing up, I took another look at the other bank and saw that it was not the kind of a bank from which Canada-seeking cashiers flee, but the kind which New England's bob-o'-links use as a lunch station on their way to the land where they are known as the ortolan, the butter-bird or the rice-bunting, leaving the greater part of their immediate relatives to be served up "broiled on toast."

My greenheart rod and fine tackle were by my host quietly placed where the "dogs wouldn't bite 'em," and instead I was given a willow switch about six feet long with a line of just the same length. There was a gut leader two feet long and two hooks about one foot apart, and a quarter ounce split shot sinker. A tomato can filled with worms was placed in a "Yankee-bucket" and grabbing a duplicate of my outfit the teacher said "Come along, right away. It's time we were at it."

In five minutes we were clambering down from the draw-pier of the draw-bridge and perched ourselves upon a timber that spanned the open part of the "box," under the effulgent rays of the full moon, and then I was told:

"This is the way to do it."

The glorious moon kept on shining, the miasma from the banks kept on rising, the water kept on splashing lazily against the piers and on the shores, while the teacher kept on lifting big white perch out of the water at a rate that threatened to fill the basket before I recovered from my astonishment.

"Now put a lively worm on each of your two hooks—yes, that sinker's just right. Now troll backward and forward. There, I have another couple. Wait till I bait up. Now don't let your bait get more than three feet under the water, and keep it moving—there, I told you so, *your two makes* the first dozen, and now you know how and go ahead."

But he said further something that sounded like the French proverb, which, although not new, will bear repetition:

"Pas de leur Rhône que nous."

I paddled my own canoe after that, and during all the "slack water" I did my part toward filling that bucket, and when the tide had turned seaward we turned homeward.

The next morning I had one good breakfast, for I made the coffee myself and cooked the fish, and from the kitchen belonging to the house where we were existing and from numerous other kitchens in the vicinity the early rays of the rising sun were greeted with an odor that came from fresh caught, *Percidae* that were seeking for the favorite tint of the sombre Van Dyke, in that "much maligned and little understood" frying-pan.

CRUISE OF THE WHITE HEIFER.

BY D. D. BANTA.

II.

Evans—Give ear to his motions, Master Slender.
I will description the matter to you if
You be capacity of it.

—*Merry Wives of Windsor.*

The east wind that brought the White Heifer and her crew safe ashore the morning after their wild adventure on the lake barely saw them landed when its force was spent, after which the norther resumed sway and blew a gale until some time in the following night. In its train came disasters that will make it long remembered by others beside our crew. Two voyagers were wrecked and lost almost within sight of our camp. They had effected a landing the night before on one of the islands or headlands passed by us on our journey up, and, becoming impatient at the continued storm during the day, sailed out upon the treacherous waves for Marquette and were swallowed up. Not a vestige of them or their boat was ever after found.

Now that we were in harbor we felt secure—why shouldn't we?—and potted around watching the waves as they beat and thundered against the rocks on the farther side of the point or rolled up in great fleecy flocks on the beach. In an Indian village hard by we also beguiled an hour or two of our time, watching a couple of squaws "pitching" a bark canoe. Eating an early dinner we went to our tent and sought rest in sleep, but hardly were we composed for slumber when the Deacon, who was a man of short naps, arose and went out and immediately thereafter we heard his cry of alarm. In a moment the entire crew tumbled out to find the storm at its wildest and the waves sweeping around the point and bearing down in heavy swells upon the boats. The Brenda was already swamped and the White Heifer with its precious load in imminent danger of being jammed to pieces against the dock. The former vessel was at once hauled up on the beach, where it was afterwards found to have received an injury which forbid us taking it farther. It had opened at the keel from stem to stern.

To explain the situation let me say that the dock had originally been constructed of timber by a lumber company and was in the shape of a Roman L. The longer arm was at right angles with the shore line and the shorter parallel to that line. That part of the shorter arm next the longer had been broken away and the two arms were connected by two logs yet in place. The White Heifer lay on the outside of the long arm of the L-shaped dock and it was with the utmost difficulty she was warped around to a place of safety inside. But it was too late. Hardly was it done when Doctor Jo cried out: "The boat is sinking!" The Judge and I ran over the slick logs uniting the unbroken parts of the dock, and a glance told us there was eight or ten inches of water in the hold. Whatever the cause, it was evident the White Heifer was slowly going down and that it would take quick work to save the cargo; and without much talk things were tumbled out upon the short arm of the dock in the utmost confusion, after which the boat was suffered to settle down at her leisure in two feet or more of water. As the waves were splashing over our

camp stuff it was necessary to lose no time in removing it to a place of greater safety, which we found no easy thing to do. Some of us ventured over the treacherous logs with such loads as we could carry, while the Judge, plunging into the surf, carried on his back much of the dripping stuff to the dumping place on the main dock. In spite of our misfortunes we indulged in more laughing than groaning. Scarcely a load did the pursy ex-jurist make his way ashore with than a wave breaking through the breach in the dock struck his broad back, fairly fetching him to his knees each time. Our fifty pounds of sugar in a two-bushel sack he carried dripping to shore and for days afterwards his vest back was as stiff as a board, while long streaks of dirty white down the rear of his trousers showed where the treacle had run.

Dear me! What a glowing prospect that old dock did present with all our camp supplies and personal effects scattered over it! Boxes and bags of provisions, the greater part wet and more or less spoiled; bed clothes, fishing tackle, wearing apparel, photographic materials—everything except hats, lying higgledy-piggledy on that dock. I have encountered a good many discouraging episodes in my outing adventures at one time or other, but never one quite so depressing as this one. Following so close upon the heels of our night of horror and coming so unexpectedly, it need not be wondered at if our courage was clean gone. As I looked at the ruins I felt that the trip was over. Indeed I felt thankful that we had escaped with our lives and would have welcomed any means of conveyance back to our place of starting. As if animated by a common thought we stood on the beach and looked at our wretched outfit. For some time not a word was spoken. At last Dr. Jo broke the silence: "Shipwrecked on dry land, by gum!" No one made reply. The Deacon gave the Doctor such a reproving look that he held his peace for some time.

"What are we to do now?" the Judge asked.

"If the worst comes to the worst," answered the Captain, (as if the worst hadn't come), "I'll go back to Marquette for help."

"Go back! How?" came in chorus by three of us. Doctor Jo hadn't recovered from his rebuke.

"There is a good wagon road from here there," was the Captain's answer.

"Is there?" queried the Deacon, with an eagerness that quite plainly indicated that he thought the news was too good to be true.

"Yes," answered the Captain.

"By land?" The Deacon still couldn't believe it.

And then we all laughed—Doctor Jo the loudest of all—all except the Deacon. The good man's feelings were too badly hurt just then to laugh at anything. He was like a good many other men I have met with one time or other in my outings, he could never appreciate his own jokes. Other people's were exceedingly funny sometimes and he withheld not his merriment, but to himself there could be no sort of fun in one inadvertently made by himself. A good many times afterwards we renewed the laughter at the Deacon's question, but never without pretending to laugh at something else, or else first going out behind something. If the Deacon could only have known how

much that first genuine laugh did to restore our courage I am sure he would not only forgive us but look upon himself as a sort of benefactor.

At my suggestion the question "What are we to do now?" was laid on the table till the next morning and the remainder of the day consumed in spreading out and turning over things to dry.

The next morning we were feeling better. With a good night's rest our courage had returned and with it a renewed desire to sail on. No one for a moment could endure the thought of the spectacle we would present sneaking back into Marquette.

During that night a boat and crew had landed and spent till the next morning on the beach close to us. Their captain and ours, putting their heads together, soon devised a plan for repairing the hole that had been knocked in the bottom of the White Heifer, and then joining their labor they repaired it. The miserable old rag of a sail was patched and darned by the two captains and for that matter damned by Doctor Jo, who was the only swearing man belonging to our crew and who, I will say, never swore except for cause. I disapprove of swearing on principle and so did the entire crew, not excluding the Doctor, but when that old fraudulent sail proved specially vexing he would pass along a few choice epithets, which, I grieve to say, gave consolation to the entire crew, not even excluding the Deacon and the Captain.

On Thursday, the 22d of July, about 3 P. M. we renewed our voyage. It was with a heavy heart that I saw the trim-looking Brenda left to fry in the hot sun on the beach. The Captain and I, he being the one to whom the little boat belonged, had voyaged the year before all the way round the Copper Horn in her and I felt like I was leaving behind me a tried friend.

That night we anchored in a little bay unnamed on the maps, but which the Deacon christened Baby Bay.

The next morning we got an early start and I took notice that the spirits of the crew were quite as buoyant as on the afternoon we left Marquette. The Deacon's enthusiasm led him into the realms of poesy. It seems that in his youth he had a knack of making rhymes and acquired no little neighborhood celebrity thereby, but for forty years not a rhyme had passed the portals of his teeth. The inspiration proved too much for him the morning we slowly sailed out of Baby Bay. Taking off his hat and gazing lovingly on the child of his own naming he exclaimed:

"Farewell! Farewell! O, Baby Bay;
We cannot with thee longer stay."

That day we made a run of forty miles, landing in good time on one of the Huron islands. During this day's run we sighted the mouths of numerous trout streams of high repute, the most noted of which were the Garlic, the Yellow Dog, the Salmon Trout and the Pine Rivers, and we observed outers' camps at most of them.

The breeze was out of a favorable quarter for us this day and it quite steadily freshened from 10 A. M. on. As it quickened the spirits of the crew likewise quickened and a jollier set of men I never saw. The Captain sang snatches of hymns and love songs and whistled by turns; Doctor Jo, who couldn't sing, whistled and chucked overboard at regular intervals fermenting crackers, calling at-

tention to the long undulating line they made on the waves; the Judge essayed a story but with no great success, for we laughed uproariously at the dull places and looked as solemn as ghosts at the funny ones. The Deacon was still in the inspired mood. He *did* numerous rhymes till his exaltation became such that he attempted a bolder flight of his muse than ever before and for several days after we trampled under foot fragments of the verses he had made and written and then cast aside.

No wonder feelings of hope and joy animated our breasts. We were not only driving along at a spanking rate but the scenery before us was calculated to please and charm. On our starboard quarter was the boundless expanse of lake—emblem of vastness and purity. On the port side were the evergreen shores and beyond them the misty outlines of the Huron Mountains. Dull indeed would have been that man who would not have been thrilled with the manifold objects of beauty before him.

The Huron islands are twelve in number and on one of the largest is a government lighthouse. The wind was blowing a good breeze as we approached them. Passing to the leeward of one, the White Heifer sailed out into a narrow channel between that one and Lighthouse Island, but no sooner was she in that channel than a gust of wind scooped down between the two, carrying our boom over and once more ripping up our rotten mainsail. The crew thought the Captain was as good as overboard during the few moments of consternation that prevailed, but he insisted that we were mistaken and perhaps we were. Not being used to seeing captains bounced around on ship board like he was on that occasion, we most likely magnified his danger.

Once again our wretched mainsail had proved false and once more it was ignominiously dropped to the deck and the jib left to do all the work. In a short time we ran into the harbor of Lighthouse Island, where we were met by Mr. Duncan Cameron, the light keeper, who gave us a hospitable welcome for our captain's sake. He had known him during the days of his missionarying.

Our time on the island, which lasted on account of adverse weather from Friday evening till the next Monday at noon, was most pleasantly spent. We found the islands of great interest. They are of granite, and were once probably a continuation of the Huron Mountains now seen at no great distance on shore and risen above the surface of the lake about 100 ft. Their most interesting feature to me was the ice grooving and scratching to be seen on all the bare rock. This is hardly the place to enter into a description of this evidence of glacial action. I can only say that it was the most marked exhibition of the polishing and grinding power of moving ice I ever saw.

On Monday, the 26th of July, according to the itinerary of the Captain and myself, we were, "if the weather was favorable," to cut across the fifty miles intervening between Agate Harbor and Isle Royale and land at the latter place. Instead of that, here we are at the Huron Island, about fifty miles from Marquette and thirty-five or forty from the Portage towns. Nor were we able to sail from this Huron island until in the afternoon of that Monday. The wind shifting around to the right quarter shortly after noon we resumed our journey, nor did we come to anchor till we had

crossed the Keweenaw Bay, had passed the new sandstone quarries at the mouth of the Portage River, and had entered the river the distance of a mile. The next day we reached Houghton, but not to meet the Parson whom we expected to meet there. He had gone on to Eagle Harbor, whither, because of our long delay, he supposed we had sailed by keeping outside and around the Point.

We stayed at Houghton from the evening of the 27th of July till the night of the 2d of August. Our first concern was to be put in communication with the Parson, but owing to the lines being down we failed to reach him by telegraph. At last the Captain and Dr. Jo took the public conveyances and went after him. He was found at the Harbor sitting on a big rock at the lakeside, anxiously looking to sea for the coming of the White Heifer.

On the Parson joining us a much debated question hitherto, "What will we do now?" was resumed. Farther voyaging in the White Heifer was not to be thought of. We had seen enough to know that it would never do to trust ourselves with its rotten sails out on the bosom of the great lake. Carlson, a Swedish sailor, whom we had met at the Huron Islands and who had followed the water for forty years, had patched and mended our mainsail, and had told me it would not be safe to attempt to sail across to Isle Royale with as flimsy a canvas as it was. "In dry weather," he said, "it might do well enough. But if, from any cause, it should get wet, it would not take much wind to tear it into strings." And so all thought of crossing over to Isle Royale in the White Heifer was abandoned.

A portion of our crew advised going back to Pine River to fish for trout the balance of our time, but the Captain and Dr. Jo fought this fiercely. They had started for Isle Royale and to Isle Royale they were going. They carried the day, and it was agreed to hire a steam tug to go over as a tow. It was not as easy to hire a conveyance after all as it was to agree to do it. Just then all the tugs of the river were engaged, and to that circumstance is owing much of our time spent at Houghton. The indefatigable Captain ultimately accomplished his purpose, however. The Adams, a Marquette boat, commanded by Captain Everest, was engaged, and for \$120 we were to be taken to Isle Royale, and at the end of two weeks we were to be returned for and taken back all the way to Marquette. This settled, we went aboard the night of the 3d of August with the feeling that all our troubles were ended. The Professor joined us at Houghton, and henceforth he was numbered as one of the crew of the White Heifer.

The Erie Railway steadily holds the lead as the favorite route with all tourists. This is true because of the many improvements constantly being made in all branches of service; the substituting of hard coal burning engines; the placing in use of a system of block signals, thus enhancing the safety and speed of trains; the erecting of new, commodious and elegant station buildings along the line of the road, of which those at Rochester and Jersey City are fair samples, and the placing in commission of the latest and most improved coaches.

In addition to the above the Erie is constantly extending its lines, with a view to the augmentation of the conveniences it would place before its patrons. In proof of this statement is the recent lengthening of the Erie's track to within three blocks of the Falls of Niagara and on the property acquired by this extension an elegant new station building is speedily to be erected.

Between New York and Rochester, Buffalo, Niagara Falls, Canadian points, Chicago, St. Louis, Cincinnati, through Pullman coaches of the latest construction are run, and all details which cater to the pleasure of the traveling public are handled with great care and liberality.

A BOY'S TROUT.

Like all boys I must a camping go, and, in fact, during that memorable summer I camped just four days. On the fifth one of the party accidentally discharged a small rifle, and I was loaded on the train and sent home. After going through a course of probes and carbolic acid I was packed off into the country by the *paterfamilias*, who didn't think it worth the surgeon's bill to "teach the young idea how to shoot," and who hoped that if I could be kept away from my shotgun he would run a fair chance of getting through the summer without any funeral expenses. So, with a new rod and reel, I took up my abode in a sleepy old town, the fishing waters of which consisted of two small ponds containing a few small bullheads, and several brooks which ye old inhabitant said "were good fishin' when he was a boy, but you couldn't catch any now."

The ordinary small boy has never since "Simple Simon went afishing" cared how many fish he caught provided he could find water enough in which to get his feet wet, and I was no exception. It was a cool, pleasant morning on which I followed a small swift stream up into the hills. The banks were fringed with beeches and butternuts, whose branches meeting overhead caused the darkest natural shade I have ever passed under. The country was extremely rough, and the brook had by the wear of ages hollowed out in the solid ledges smooth and almost circular pools. Into these I cast my single gray hackle, but nary a trout did I hook. With the hope of youth I trudged on, and, for want of better sport, stoned the chipmunks as they ran over the fallen logs. The traveling became still more difficult, and I was preparing to go around a ledge higher than those previously encountered, it occurred to me to take a peep into the pool at the foot of the fall. What I saw suggested that I walk down stream while the denizen of that pool recovered from the fright caused by my sudden appearance. Then returning and reeling in all but about six inches of my line I let my fly light where the water, which tumbled down the rocks, struck the pool, and the next instant the most excited urchin in seventeen counties held the butt of a lance-wood rod while that fish made "Rome howl" as he tore through the water. Finally I regained enough of my senses to run up the bank and drag my catch ashore, for I had forgotten that I had ever seen a reel. I have seen the black bass rise from the water to shake the sharp hook from his jaw; I have seen the ruffed grouse stop short in his upward career and have experienced only the feelings of triumph when the one found its way into my creel and the other into my game bag. I had caught my largest trout and should I pay homage to the palate and consign the noble fellow to the frying pan? He deserved a better fate. Making a pen of stones I removed the hook, regained the road and at the nearest house borrowed a pail.

For several consecutive summers when I made my annual pilgrimage to the land of my fathers my first act was to visit a spring by the wayside, in the cool depths of which dwelt and may dwell now my friend of that August day.

LE RODER.

Snapping mackerel, weakfish, striped bass and bluefish have been caught in large numbers by fishermen at Sea Isle City, N. J., lately.

EDUCATION OF FISHERMEN.

A writer in a London journal says:

The excellent work promoted by the Baroness Burdett-Coutts in Ireland in founding an industrial fishing school meets with the entire sympathy of the country generally.

The fisheries of the world have been recognized as forming one of the chief industries, and at certain periods engaged the first attention of legislative bodies. As population increased and trade developed the fisheries became a still more important factor, and at the present time the industry affords employment to 150,000 fishermen in the United Kingdom, and to an equal number of persons employed in the various trades essential to the equipment of the boats.

It certainly appears strange at first sight that their knowledge concerning the source of their livelihood is so limited; but upon mature reflection it is readily accounted for by the fact that they have been totally neglected. They issue forth upon their career unprepared with the rudiments of their craft, and the lad follows in the trail of the father from generation to generation, untaught and comparatively uncared for. This neglect has caused the present undesirable condition of our fisheries to a great extent and left the existing body of fishermen little more advanced than the past.

In the first place, they should be taught to regard the production of the seas as being limited, and how to reap it judiciously and expeditiously without detriment to ova and young fish; they should be taught to regard the ocean as so much pasture land, depending upon economical tilling and culture.

Hitherto it has always been harvest time among our fisheries, and man has never sought to make good his waste by culture. We want to make fishermen clearly understand those subjects having relation to their personal interests. We want to show them in what way they can facilitate the capture of fish and how to do so with a greater amount of certainty and precision.

Fishermen should be educated concerning the position of breeding grounds and the periods at which fish spawn, the nature and position of ova pending incubation, whether adhesive or otherwise, the best modes of using the various new and improved fishing nets and appliances, as well as the systems of taking fish without occasioning injury to the fry. They should also be encouraged and instructed in recording the temperature of the ocean, the state of the weather, the direction and force of the wind and other meteorological data. Such statistics would be of inestimable value in studying the migration of fishes. As this subject is of great importance to fishermen, it would form a most desirable branch of the instruction given. The education thus imparted could be supplemented by lectures and conferences, and all those connected with the fishing industry encouraged to attend and take part in the discussions.

The evidence of fishermen would avail much if their interests were awakened by knowledge and their minds prepared by the instillation of the rudiments of natural history, for among the fishing classes are many intelligent men whose services might prove valuable to scientists if they were educated and encouraged in the desired direction.

The fishermen, on their part, will heartily appreciate such a boon as it is desired to bestow upon them, and they would, I feel confident, readily combine in helping to investigate the mysteries of the ocean now concealed from the eyes of the wise and prudent. The aqueous kingdom is at present a sealed book, and the knowledge obtained concerning its finny inhabitants does not extend further than generalities.

The Angler's Score Book.—Contains blank forms (with stubs) for registry of fish caught; their species, size, weight, baits used, waters fished in, with conditions of wind, water and weather. Pocket size, paper cover, 10c.; in limp cloth, 25c. Address THE AMERICAN ANGLER, New York.

Notes and Queries.

FISHING NOTES.

We had last week the pleasure of a call from Mr. E. W. Allen, General Passenger Agent of the Duluth, South Shore and Atlantic Railroad, who informed us among other things that there existed a credible report of grayling being taken in a stream a few miles west of Houghton, in the Northern Peninsula of Michigan. If true, it is an interesting discovery, as heretofore the habitat of this beautiful fish has been confined to those portions of the State east of Lake Michigan.

The Newark *Sunday Call* says that it is estimated that the three menhaden fishing steamers at Somers Point caught during four days last week about 3,000,000 menhaden.

A party of Long Branch fishermen caught over five hundred pounds of bluefish on a trip last week. They averaged four and a half pounds in weight.

A striped bass weighing 9½ lbs. was caught last week in the Delaware River.

As the cold increases striped bass fishing improves until the waters get below 40° in temperature. Good bass fishing is now to be found in Great Kills, Staten Island; in Hell Gate and other points on the East River, in the Kills at Bergen Point and in the Navesink and Shrewsbury Rivers. Trolling with small eels for bait is said to be a very successful method of catching bass.

Bluefishing at Bay Head, N. J., this fall has surpassed that of any season that can be remembered. It is estimated that there was caught by hook and line and landed on the beach at Bay Head and Point Pleasant last week eleven tons of bluefish.

Mr. Frank Endicott, writing us from Chadwick, N. J., says: "I have been having glorious sport here catching bluefish with rod and reel, casting from shore through the surf."

"Subscriber" writes, under date October 17, regarding the Hell Gate striped bass as follows:

"I see some doubt expressed as to the probability of catching a 19½-lb. striped bass at Hell Gate. I think there need be no doubt of the fact, for I have seen to-day a bass weighing 17½ lbs., caught by a friend of mine, as well as another 8½-lb. one, caught Friday, 14th inst.; the other Saturday evening. Both were caught only a few miles up the sound and the large one he brought home to let the boys see the "kind." They were not caught in a fyke, but with hook and line, the larger one after half an hour's good fight. The above were caught by T. J. Barnaby, of Eighth Avenue."

Subscribe for THE ANGLER.

CONVENIENCE OF A CANVAS CANOE.

Your paper is always filled with good things and any one who reads its pages will find much therein to interest and instruct. The angler of observation and experience will find something for his benefit, but for the beginner it is surely indispensable. I like to see the angler give his brothers the benefit of any and all things that he may find out which are good and contribute to the convenience, pleasure or comfort of the craft. I have been angling for thirty years and upward and must say that of all the materials or implements in the catalogue there is nothing which proves such a luxury as a good, substantial canvas boat or canoe. They can be made very cheaply and easily by any one possessed of a small amount of ingenuity. I made one five or six years ago, used it two seasons and then sold it for four dollars, and it is still in use. Four years ago I made a second one and I am still using it—almost as good as new. Neither of them cost me \$5.

No person who has never used one can form the faintest idea of the advantages such a boat affords. Mine is so light that I can put it on my shoulder and carry it two miles without stopping to rest, and yet it is strong enough to carry two men, or, if you prefer, a lady and yourself.

When placed in the water they are very easily managed, only a small paddle being necessary. If on a lake with the wind blowing gently all that is to be done is to sit still and cast here and there, to right and left, in front or behind. Should the wind carry you too swiftly tie an iron weighing a few pounds to a string, fasten to the side of your boat and regulate your speed by the depth you allow the weight to descend. In case you wish to stop let the iron rest upon the bottom.

On one occasion, when casting for sunfish in a small lake, they were taking the flies so readily that I dropped my anchor upon the bottom, stopped the boat still and in fifteen straight casts took fifteen fish—sunfish and rock bass. I drew up the weight and moved along some distance, when a black bass struck my tail fly, tied on a No. 12 Limerick. I saw the swirl and instantly learned that he was a good one. My tackle was of the lightest—four horse hairs for a line, single trout leader and no reel. What was I to do? What would you have done, brother angler, in such a case? Well, here comes in the beauty of having a light canvas canoe. Instantly, seeing that he was securely hooked, I took my paddle and gave the boat a shove out into the deep water, where nothing could give the fish any advantage over me. Here, some hundred feet from lily pads, in water twenty feet deep, we had our struggle, and never did any fish make finer runs and turns, but the boat moved so easily that he could not and did not smash my tackle. Had I been in a heavy boat he would surely have broken my line. I finally landed him with my hand and when weighed he was above two pounds.

Should any angler wish to know how these cheap canvas canoes are made, if he will make request in *THE ANGLER*, or personally by letter, I will be pleased to give full description for the benefit of the craft. They can be completed in about one or two days, according to the ability of the workman. The material will cost four or five dollars and they answer the purpose well. They are not handsome and

should the angler desire show more than convenience he won't want them. I would almost as soon try to cast the fly without a rod as to try to do without my boat.

I use it also in casting my troll and find that by so doing the fish are always in front and have not been alarmed by the boat, as it glides along so quietly, and the catch is fully 100 per cent. better than when the troll is drawn behind the boat. The fish generally are larger too. Of all convenient things the canvas canoe is surely the greatest boon to the angler. In case of a shower you can turn one upside down on stone, fence, stump or log and sit beneath it, keeping perfectly dry; or you can place it upon your head and go home through a heavy rain and not get a soaking.

S. M. HARPER.

Mechanicsburg, Ohio.

HOW DO YOU ACCOUNT FOR IT?

I was talking the other day with Captain Kinner, now master of the schooner-yacht *Nirvana* and a "sailor from way back," and chanced to ask him if he'd had any fishing this season. He said in reply that he had not, and said moreover that there was something curious about it too. "Why," said he "we've been outside along the near-by coast pretty much every week this summer, cruising about anywhere from one to twenty miles off shore, and we've never failed to troll the 'squids' astern on the chance of hooking a stray bluefish, as we've done many years before from this and many other boats I've sailed. This year, however, we haven't had a single 'strike' of any sort whatever. Now, I might think that this was only 'just our luck,' but I was talking to the captain of one of the pilot-boats the other day, and he assured me that he had the same experience all during the season. He told me that in former years they had always managed first and last to catch by trolling all the fish they wanted to eat at some time during the season. Sometimes they were 'running' and sometimes they weren't, but sooner or later they would always get into a school of 'em and hook onto all they wanted. This year, however, he had sailed his boat up and down through schools of bluefish away out to sea, and done the same in shore where the 'chummers' were anchored and catching 'em that way hand over fist, but never a bluefish, big or little, would take a squid or any other trolling lure that he had used."

Now we have here the simple evidence of two intelligent and observant seafaring men about a matter which is of no great importance to either of them and is of the more value on that account. Of course it does not prove anything, but it suggested the query "How do you account for it?"

It is possible, but not probable, that the bluefish have reached a point in their evolution where they recognize the metal "squid" as an hereditary danger—or rather they have an hereditary perception of the danger of the metal "squid." This would be a most satisfactory explanation to the advocates of the theory of evolution, but unfortunately for them the experiences of one season, though pointing in this direction, can hardly be regarded as conclusive evidence. Meantime who among the readers of *THE ANGLER* can suggest some simple, unscientific and commonplace explanation of what appears to be an observed and remarkable fact?

BEN BENT.

THE ELGIN (ILL.) MASCALONGE CLUB.

We are indebted to Mr. W. H. Vail, of Valparaiso, Ind., for the following elaborate *ménu* and rules of the above named club:

The Elgin Mascalonge Club, of the Elgin Watch Company, have been enjoying themselves at their annual encampment on the Eagle Waters near their native city. They returned to Elgin, Ill., on October 10, and the much-hunted fishes, which have no doubt grown thin and haggard from their long suspense, will once more have a chance to regain their normal sleekness and peace of mind.

Not all the members are fishermen, however; many simply went along in order to partake of the elaborate *ménu* which is daily served.

Below are given a few of the more sumptuous delicacies enumerated, in order that readers may see for themselves what strong inducements are held out to the members to join the camp. These dainty epicures invariably start with horsefly soup; then comes a smoking hot dish of mascalonge hams, followed by an *entrée* of pressed chicken bones. Those who have had the pleasure partaking of the latter dish say it reminds them of the happiest hours of their lives spent in New York boarding-houses. Wasp fritters make an excellent pungent *relieve*, and in roasts the diner has his choice between half a dozen delicacies, among which buzzards with hair, carded, and bald-headed snipe with brown potatoes play prominent parts. In this way they probably manage to suit the tastes of bald-headed men and those blessed with too much hair.

Game is represented by fried potatoes seasoned with fine sand, for which an extra charge is made, and young wolves with howling sauce. All these are washed down with Pyro, half-pint for amateurs, Kelsey's No. 6, Cabinet Glue, and make a meal never to be forgotten.

On the page opposite the elaborate *ménu* are the special rules and a few words of explanation, showing that the club is not a foundling, but an association organized in 1886, "for the purpose of enticing the timid mascalonge from its lair among the bullrushes in the Eagle Waters of Wisconsin," and whose mission has been so successful that "its name and fame are familiar topics through the wide, wide world, and part of McHenry."

The special rules are as follows:

The "shutters" of the camp shall not be put up after midnight unless the manager is immediately invited.

The guide will not be allowed to bring bear into camp without giving a week's notice.

The president will not be allowed to make biscuits without the unanimous consent of the club.

The secretary will not be allowed to row a boat or do any hard work while any other member of the club is with him.

When leaving camp for the purpose of shining for deer, the party will consult the guide in reference to the necessity of taking matches.

The front page of the *ménu* bears a pretty etching of a fishing scene and the back is embellished with a unique work of art representing the departure of the club. The entire town has evidently turned out to wish them good-speed and a safe return from the dangers they will brave. The talented artist must, however, be slightly at fault, for the scene is entirely too *watery* to be just the right kind of departure for a real fishing club.

CAPE MAY INDIGNATION MEETING.

A largely attended meeting of citizens of Cape May, N. J., was held on the 8th instant to denounce the depredations of the menhaden pirates in destroying the food fish along the New Jersey coast. A permanent organization was effected with Mayor J. Henry Edmunds, president; H. W. Hand, secretary, and Joseph H. Haines, treasurer. The following resolutions were adopted:

WHEREAS, The long-continued and impudent depredations of the fish pirates on this coast make it of first importance that the citizens of Cape May shall enter their earnest protest against the infamous traffic in what promises at no late day to destroy one of the principal food supplies of the people; therefore, be it

Resolved, That we urge upon the Legislature of this State to take such action as may be necessary to bring the attention of the Congress of the United States through New Jersey's representatives to the doings of the fish robbers with their destructive purse nets; therefore, be it further

Resolved, That the people of the coast join with us in making the wilful waste of edible fish odious, and thus compel the interference of the Federal Government in their protection.

LITERARY NOTES.

Lovers of gun and rod will be interested to know of a work entitled "The Sportsman's Paradise; or, the Lake Lands of Canada," by Dr. B. A. Watson, which J. B. Lippincott Company expect to issue this month. Certainly no portion of our continent affords a better field for the sportsman than Canada, and we have no doubt that Dr. Watson's experiences are of such a character as to make his narrative entertaining and spicy. The volume is to be profusely illustrated by Daniel C. and Harry Beard, and will make a very handsome Christmas remembrance.

In the *American Field* of October 15 was commenced a series of articles entitled "Army Sports on the Frontier," by Lieutenant J. M. T. Partello, of the United States Army, which will be intensely interesting, inasmuch as each article will be a graphic description of sports on the frontier, such as has never been published before. Each article will be illustrated. Lieutenant Partello's reputation as a writer is sufficiently well known to be a guarantee that the subject will be treated in an able manner.

RODS FOR THE MILLION.—About the surest indication of the rapid growth of angling in this country is the resultant growth of fishing tackle manufacture. More rods are made simply because there is a greater demand for them and not because rod makers desire to educate the public at a loss to themselves. Few have any idea of the great variety and wide range of styles and prices to be found in the stocks of our modern dealers. During a few days of last week room No. 142 of the Astor House in this city was occupied by Mr. Thomas H. Chubb, of Post Mills, Vermont, who had brought with him from his extensive manufactory a full line of sample rods for exhibition to "the trade" only. It was a remarkable collection ranging all the way from a beautifully finished, elaborately mounted and numerous jointed fancy fly-rod suited to the educated tastes and facile fingers of the expert, all the way down to a trifling little pretty three-piece pole, strong, simple and serviceable, just the thing to stimulate the fancy of an angler's boy to follow down the stream. Mr. Chubb has had great experience in his line of business and the fact that he finds it worth his while to fairly swamp an Astor House room with trade samples shows that angling is a sport that is growing apace all over this wide land.

NOTES FROM MAINE.

The writer called at the Crooked River Weir on the 4th of October. The works were all completed and about sixty salmon were then in the pound, twenty-five of which had come in the night before; the largest, a female, was estimated at 20 lbs. A few days later I was told that the number in pound was about 100.

Many of the fish have defective eyes when they come in. Mr. Harriman, who is in charge of the works, has a different theory in regard to those bad eyes from that so persistently set forth last spring. One fish was so bad that it was turned into the river above the weir; it showed signs of a fish spear having been in dangerous proximity to the eyes. "Gill-nets is what does the most of it," is the verdict of an experienced man. The weir is a little farther up the stream than it was last year. A patrol is kept over the river below. Shall try to visit the weir again before the season closes. Quite a number of land-locks have made their appearance at Rogers Brook Bar. I have also seen a few in Bear Brook. Quite a good lot of the fry planted a year ago appear in the streams.

Warden French, with assistants, has made it hot for some "Boston sportsmen" (?) who have been killing deer in close time and with dogs. Fines and costs aggregated some \$900. There would have been a hardship about this if the game laws obliged these men to hunt in close season. As they do not, it seems the proper thing has been done.

It is with some surprise we read of Mr. Stewart's alleged illegal fishing. Though I have never met the gentleman, I had set him down among the saints, and hope there is some mistake. It is the proper thing for the warden to move in the matter if complaint has been lodged against a party, for favoritism will not do in this business.

Possibly in few instances the protective laws may have appeared to better advantage than in the protection of deer. A few years ago it was a rare thing that a deer was seen in this section of Maine. Now hardly a week passes when one or more are not reported from some part of this and adjoining towns. Several have lost their lives by some one trying to take them for pets. Petted to death is about the size of it.

Little attention has been paid to bass fishing of late. The city company has left and local fishers have been otherwise employed. Some time the latter part of September, I think it was, I was told that many were taken with the fly at Highland Lake. We think of trying them the last of this week.

M.

North Bridgton, Me., October 17.

LAKE VIEW HOUSE, Green Lake, Walworth County, Wis.—The four lakes furnish the best fishing for pickerel, pike, bass and large perch in the State. Fine brook trout fishing within six miles. Sportsman's Paradise. Plenty of live bait. Seven pickerel caught in front of the hotel in one and a half hours in fifty feet of water. Smallest fourteen and a quarter pounds; largest twenty-one pounds. Perch by the bushel. Forty miles west of Milwaukee, thirty-five from Racine via C., M. & St. P. R. R., five miles from Troy Centre station, seven miles from Elkhorn. Orders for conveying guests from the stations will receive prompt attention, or livery can be procured at the stations at low rates for the hotel. Terms \$1 to \$1.50 per day during the balance of the season. Capt. A. W. Grippen, proprietor. C. J. Paige, manager, P. O. Adams, Walworth County, Wis.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

SOME VARIETIES OF PIKE.

Seth Green, Esq.—DEAR SIR:—Will you kindly inform me what kind of pike the Genesee River is stocked with and also what are the different kinds of pike found in this part of the country? A. J. T.
Avon, N. Y., October 11.

In reply to the above inquiry I will say that the kind of fish which the Genesee River is stocked with principally is the pike-perch or wall-eyed pike, also known as the yellow pike. This fish is the most highly esteemed food fish of the pike family. They were formerly very numerous in all of the great lakes and the rivers and bays which are contributory to them. They are still quite plentiful and are considered one of the staple marketable fish of the Great Lake region. They sometimes reach the weight of 12 or 14 lbs. (the latter is the largest I have ever seen), though the average is about 6 or 7 lbs. The flesh is hard, white and flaky. They are also natives of many of our inland lakes, where they are highly prized both as a game and food fish. I have taken many of them with hook and line, and they are strong and vigorous fighters, and will test both the tackle and skill of the angler before bringing them to the landing-net.

Beside the pike-perch above described there is also in this section the rock or sand-pike, and what is known as the blue pike. The rock pike has increased in numbers to a considerable extent during the last twenty years. This fish never attains a great size, one measuring from twelve to sixteen inches in length and weighing from 2 to 2½ lbs. being considered a large one; the average as they are sold in the market is not more than 1 lb. In color they are of a brightish gray, and of a slender build as compared with the yellow pike; although very palatable as food they are not the equal of the pike-perch.

The blue pike are also quite numerous in all of the great lakes, but particularly in Lake Erie. In color they are a dark slate blue on the sides and back, which gives them the name of "blue pike." They grow to a weight of from 4 to 5 lbs., although the average marketable fish is not more than from 1½ to 3 lbs. As a table fish they are about on a par with rock pike—a good fish, but not equal to the yellow pike.

My assistants, under the guidance of Mr. J. Mason, started for the upper lake region to obtain our annual supply of lake trout and whitefish spawn on Oct. 10th, and will be absent about a month.

The spawning season at the Caledonia Hatchery commenced October 7th, the brook trout being the first to spawn. They were about two weeks earlier this season than usual.

SETH GREEN.

Eight hundred trout have been placed in Brandywine and Chester Creeks, Pa., by the United States Fish Commissioners.

APPLICATIONS FOR STATE FRY.

The time is now approaching for the making of applications to the State Hatchery for fry with which to stock private and open waters in the State. Following are full directions issued by the commission and they should be carefully read by all who are interested in the matter:

The young fry of salmon trout, California trout, German trout and brook trout can only be delivered at the New York State Hatchery, Oaledonia, Livingston County, N. Y., and all parties wanting living fish of any kind must send a man for them, as there are 646 lakes in this State, not to speak of rivers and streams, and the means at the disposal of the commissioners are too small to justify the attempt to deliver fish at the expense of the State; or we will send a messenger with the fish by the parties paying the traveling expenses and giving full directions—the route to come and who to call upon for a settlement.

Salmon trout are in condition to transport from February 20th to March 20th. Salmon trout are strictly a lake fish and will not thrive in streams or lakes having a less depth than seventy feet. Brook trout, from March 20th to May 1st, and should be put in the small spring rivulets that supply the main streams. California trout from May 15th to June 15th, and should be put in the tributaries to large creeks, rivers and lakes. German trout from March 15th to May 10th, and should be put in the tributaries of large spring creeks or tributaries of cold pure water lakes; they will thrive in the same waters with speckled trout.

Small-mouthed black bass, rock bass, yellow perch, pike and bullheads are adult fish, and are delivered during the spring.

No person while transporting fish should go to sleep and allow them to be left alone while in the cans, as it will be sure death to the fish. All parties coming for fish will be given full directions how to manage them, and if they do not follow the directions to the letter they will be sure to lose them.

Milk cans are used to carry all kinds of fish. A twelve-gallon milk can (the most convenient size) will hold 4,000 salmon trout or 5,000 brook, California or German trout, or from ten to twenty of the other above named fish, according to their size.

All communications should be addressed to the undersigned, and must describe particularly the waters to be stocked, giving their names, location and size, and stating whether the bottoms are rocky or muddy, or have eel-grass, flags and pond-lilies, and temperature of water during summer months. The pike, rock bass and black bass are suited to clear water with rocky bottom, and perch and bullheads will thrive only on muddy bottoms with flags and pond lilies. It should also be stated what kinds of fish are in the waters.

It is useless to stock with the above mentioned adult or breeding fish any waters already containing them. The number supplied by the commission (thirty to one hundred of each variety) is sufficient to stock any waters suitable for them in the course of a few years, and are not calculated to furnish immediate fishing. The parent fish, under favorable circumstances, will yield many thousand young fry annually.

All fish deposited in lakes should be placed as near the head as possible so they will not go into the outlet before they become familiar with the waters. Care should be taken as far as practicable to deposit the young fish in localities not inhabited by minnows, chubs, suckers, or any other kind of fish. If this precaution is not taken a large percentage of the fry are sure to be devoured. The result will also be more satisfactory if the fry are carefully distributed by placing only a few in one place, thereby affording them better opportunities for food and shelter.

Parties ordering fish will be notified when they are ready for delivery, and will be expected on time without fail, or render their application liable to cancellation. No parties should come until after receiving such notification, or an order from the superintendent.

ALL APPLICATIONS MUST BE MADE BETWEEN DECEMBER 1ST AND MARCH 1ST, as it is absolutely necessary to have a close time.

SETH GREEN, Superintendent.
242 Alexander Street, Rochester, N. Y.

Following is a list of the New York State Fish Commission as at present constituted:

R. B. Roosevelt, New York; R. U. Sherman, New Hartford; E. G. Blackford, Brooklyn; W. H. Bowman, Rochester; A. Sylvester Joline, Tottenville, S. I.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

HIGH WATER TABLE OF TIDES FOR THE NORTH ATLANTIC COAST.

[Collated from the United States Coast and Geodetic Survey Tables.]

OCTOBER.

October.	Eastport, Me.	Portland, Me.	Boston, Mass.	Newport, R. I.	New London, Conn.	Sandy Hook, N. Y.	Philadelphia, Pa.	Baltimore, Md.	Washington, D. C.	Old Point Comfort, Va.	Charleston, S. C.	Savannah, Ga.	Fernandina, Fla.	Key West, Fla.
1	10.49	11.03	11.20	7.28	8.35	7.10	0.44	6.09	7.18	8.08	6.53	7.40	6.58	8.33
2	11.20	11.35	11.51	8.03	9.13	7.48	1.21	6.45	8.02	8.42	7.28	8.17	7.35	9.08
3	11.49	.....	0.12	8.36	9.49	8.23	1.58	7.20	8.38	9.12	8.03	8.53	8.11	9.40
4	0.13	0.27	0.48	9.07	10.28	8.57	2.34	7.54	9.13	9.45	8.36	9.27	8.47	10.09
5	0.45	1.00	1.18	9.40	11.06	9.28	3.12	8.29	9.39	10.18	9.11	10.03	9.25	10.41
6	1.18	1.32	1.48	10.10	11.52	9.59	3.52	9.07	10.17	10.55	9.49	10.40	10.06	11.20
7	1.55	2.08	2.23	10.54	.....	10.34	4.34	9.49	10.59	11.38	10.31	11.22	10.51	12.06
8	2.37	2.48	3.05	11.39	0.30	11.15	5.18	10.36	11.45	0.01	11.18	.....	11.42	.....
9	3.24	3.37	3.52	0.07	1.53	.....	6.09	11.29	0.12	0.54	.....	0.24	0.12	0.43
10	4.18	4.30	4.45	1.09	3.08	0.44	7.08	0.00	1.10	1.57	0.37	1.24	1.09	1.45
11	5.17	5.30	5.46	2.17	4.12	1.44	8.14	1.03	2.13	3.03	1.43	2.30	2.08	3.03
12	6.29	6.32	6.48	3.26	5.11	2.82	9.21	2.08	3.21	4.07	2.49	3.37	3.08	4.22
13	7.23	7.32	7.50	4.25	6.08	3.57	10.25	3.11	4.28	5.04	3.51	4.38	4.05	5.32
14	8.18	8.32	8.50	5.21	6.53	4.58	11.24	4.14	5.29	6.58	4.50	5.38	5.00	6.37
15	9.12	9.25	9.44	6.15	7.41	5.56	.....	5.12	6.23	6.51	5.44	6.33	5.52	7.22
16	10.08	10.18	10.35	7.03	8.29	6.50	0.40	6.06	7.14	7.40	6.35	7.25	6.43	8.12
17	10.52	11.05	11.28	7.52	9.16	7.42	1.29	6.53	8.00	8.28	7.24	8.15	7.33	8.58
18	11.40	11.54	.....	8.39	10.05	8.32	2.18	7.40	8.48	9.15	8.12	9.04	8.25	9.40
19	0.11	0.24	0.43	9.25	10.56	9.22	3.10	8.27	9.37	10.04	9.01	9.93	9.16	10.28
20	1.03	1.16	1.35	10.13	11.52	10.11	4.00	9.15	10.25	10.54	9.51	10.40	11.11	11.20
21	1.56	2.10	2.30	11.01	0.10	11.00	4.50	10.07	11.16	11.48	10.44	11.37	11.08	.....
22	2.55	3.10	3.29	11.52	1.08	11.52	5.44	11.03	.....	0.26	11.39	.....	.....	0.08
23	3.58	4.13	4.33	0.36	2.09	0.36	6.41	.....	0.42	1.29	6.12	0.59	0.46	1.07
24	5.07	5.22	5.40	1.41	3.22	1.34	7.40	0.32	1.43	2.37	1.15	2.03	1.46	2.18
25	6.15	6.31	6.48	2.49	4.22	2.34	8.39	1.31	2.42	3.42	2.18	3.06	2.42	3.38
26	7.19	7.34	7.50	3.55	5.15	3.34	9.34	2.27	3.41	4.40	3.17	4.05	3.35	4.52
27	8.14	8.30	8.43	4.50	6.03	4.29	10.25	3.16	4.35	5.30	4.12	4.59	4.22	5.50
28	9.01	9.16	9.30	5.36	6.46	5.19	11.11	4.08	5.23	6.16	5.01	5.47	5.05	6.47
29	9.41	9.55	10.11	6.18	7.26	6.04	11.52	4.52	6.05	6.51	5.43	6.33	5.44	7.29
30	10.15	10.30	10.45	6.58	8.03	6.43	0.11	5.35	6.45	7.32	6.22	7.11	6.20	8.08
31	10.45	11.00	11.12	7.28	8.38	7.20	0.48	6.14	7.22	8.06	6.57	7.47	6.54	8.44

The above table gives the morning tides which are calculated on local time. To reduce to standard time subtract 32 minutes from Eastport, 19 m. from Portland, 16 m. from Boston, 15 m. from Newport, 12 m. from New London, 4 m. from Sandy Hook and 1 m. from Philadelphia. Add 6 m. to Baltimore, 8 m. to Washington, 5 m. to Old Point Comfort, 20 m. to Charleston, 36 m. to Savannah, 34 m. to Fernandina and 33 m. to Key West time. Add 23 min. to Sandy Hook time for Barnegat Inlet tide, or three minutes for Atlantic City tide.

PIKE LAKE, WISCONSIN.

The following named fish are caught in Pike Lake: Small-mouthed and large-mouthed black bass, rock bass, pickerel, masacalonge, perch and sunfish. These fish are bred in pure spring water, and the altitude of the lake is eight hundred feet above Lake Superior at a distance of eighteen miles from that body of water.

The largest black bass caught this season on Pike Lake weighed 6½ lbs., captured by Dr. Arthur Holbrook, of Milwaukee. Largest masacalonge was 43½ lbs., caught by Mr. Charles Hurd, of Pike Lake. Largest pickerel weighed 16½ lbs., caught by Mrs. Henry W. Ames, of Chicago.

This one of the finest deer grounds in the country, and the season is just open.

Pike Lake is located twenty-six miles west of Ashland and forty miles east of Duluth, Wis., on the line of the Northern Pacific Railroad, also on the line of the Duluth South Shore and Atlantic Railroad. Sportsmen leave Chicago say in the evening, and arrive at 10 o'clock the next morning.

A. J. A.

Pike Lake Hotel, October 4.

FISHING ON THE CASS.

It was during the last week in September that four young men composed a fishing party which filled a small boat propelled swiftly on its journey, the destination being the Cass River, a large tributary on the left side going up the Shiawassee River, just above its junction with the Tittabawassee, which forms the source of the Saginaw. The party had come well prepared with luncheon, poles, hooks, lines and bait, both natural and artificial, the trolling spoons having colors that surely looked very seductive, and wagers were constantly made as to who would carry off the honors of catching the largest fish.

Numerous stories were being told about former fishing exploits that were both varied and exaggerated, sometimes a truthful one loomed up like a light in the darkness, while the very next one narrated would put out the flame—a "whopper"—sprung upon the unsuspecting trio. They were amusing to say the least, and served to pass away the time while the craft was being sent through the water rapidly annihilating the distance between it and the fishing grounds.

After a pull of about four miles from East Saginaw we arrived at the mouth of the Cass, but as boom logs closed up the stream here, we rowed a little further to what is known as the "Cass Slip," and found an easy ingress to the river. As we passed through the slip a beautiful sight met our gaze. Both sides of the cut are lined with trees and shrubbery, and it was just the season of the year when autumn had begun to assert its presence by changing the green foliage of spring and summer to yellow, red, purple and many other colors and tints, which, with the green that had not changed and was intermingled everywhere, combined to make the forest trees resplendant in their beautiful fall garniture. The ivy that was seen trailing here and there was of a deep purple and seemed to set off and complete this grand picture of nature. Everywhere this unknowable agent had been at work, as at every turn of the river a sight that seemed to surpass the one just left behind would burst upon us.

Nor were we the only ones who enjoyed this highly-colored clothing of the forest, for several boat loads had preceded us and campers on high banks were also passed on our trip along the river's windings. It is a beautiful river, and every hunter and fisherman will proudly tell you that no prettier stream can be found anywhere.

About a mile from the mouth of the Cass a tree had fallen about half way into the stream, and here two of the party were allowed to stay with their fishing-rods, lines and bait, while the other pair tried their skill trolling. It was nearly noon, but the fish did not seem to be hungry and were very wary of the hook. After trolling about an hour the pair in the boat had had three bites, losing two, but were fortunate enough to secure the third, a shovel-nosed pike of about 3 lbs. The inner man was in need of something by this time, and the trollers repaired to the fallen tree and a vote was taken about dinner. It was carried unanimously, and the quartette repaired to the immediate bank and partook of the viands they had brought with them. After a hearty dinner and a pull at a flask that was labeled "Schlitz," a smoke was the next thing on the docket. All were stretched at full length on the ground that was carpeted with colored leaves the winds had blown from the

boughs overhead, and were as contented as mortals could be watching the smoke that was carried away from their pipes by the soft wind that was stirring.

The pipes being finished and everybody thoroughly rested, the avocation of the fisherman was again resumed and with better success. The trollers, after going up the river a short distance, reached a place where the weeds grew quite a distance into the stream, and which seemed to be the home of several large pike that seized the hook as soon as it passed near them, the water being clear enough to see them after they left their grassy retreat. One black bass and four pike were landed in the boat during the early part of the afternoon. The pair on the fallen tree were becoming tired of their position, and having captured sixty-three perch up to this time, desired a change of quarters, and the boat started on its journey to the mouth of the river, where there were some floating platforms—excellent places to fish from. When we arrived at the above mentioned place we all proceeded to rig up a pole and line and vied with one another who would have the largest catch. The fish were biting splendidly, and in about two hours we had secured over 200 perch, which we thought sufficient for our day's enjoyment and knew would supply the entire neighborhood where we resided, the tackle was taken in and we watched the other anglers, numbering several dozen, half of whom were ladies, then fishing around us.

It is quite an amusing sight to see one of the fair sex fish. They no sooner have a "nibble" than up goes the pole away overhead with the exclamation "Oh! my, I had a bite!" and so on until they have lost their entire bait. Now comes the circus. Did you ever see a lady bait a hook with a worm? If you did not, make it your business. It will afford you enough enjoyment for the trouble you have taken. They are all smiles until they seize his crawling highness by the back, and after missing him several times, either running the hook into their hands or their wearing apparel and requiring the services of everybody near them to release the hook, they begin to pale and the charms of fishing fast fade away. They think the sterner sex are "just horrid" for allowing their smiles to become audible, but if one will take the trouble to bait their hook, their heretofore set facial muscles will relax and they will again be wreathed in smiles at the next nibble. If a fair creature hooks a fish there is danger to everybody within the reach of her pole, as she swings the fish around in all sorts of circles and generally hits from one to two persons in the same boat, either in the face or on the back of the head, before it is in the basket. The look of satisfaction that the fair angler wears on surveying her catch, however, ought to repay at least some of the trouble she causes.

When the sun had set and the air was becoming chilly a sense of "the day is done" began to steal over the anglers, and one boat load after another deserted the fishing grounds, the quartette being no exception, and a race home was next in order, which ended that day's fishing on the Cass.

East Saginaw, Oct. 8th.

Lon.

Portraits of Game Fishes, on gray tinted Bristol board, 7x9 inches, at the following prices, post-paid: Single copies, 10 cents; Fresh Water series (23), at \$2.00; Salt Water series (37), at \$3.50; Whole Series (60), at \$5.00. The list includes all the game fishes of American waters. Descriptive catalogue free. Address THE AMERICAN ANGLER, New York.

RECENT CATCHES IN LAKE CHAMPLAIN.

Mr. C. F. Beck writes us from Rouse's Point, N. Y., on the 15th inst. that during the week General Manager Young and General Passenger Agent Burdick, of the Delaware and Hudson R. R., caught ten fine small-mouthed black bass within two hours and that the bass generally are biting freely at minnow bait. The Albany *Argus* adds the following regarding the late angling at Lake Champlain:

Large numbers of black bass and pike were caught in Lake Champlain during the past week. At Rouse's Point last Wednesday two anglers captured seventy splendid bass and eight large yellow pike, the aggregate weight being 210 lbs. The past ten days have been productive of the best results in all portions of the lake. Several fine catches of bass are reported from Plattsburgh, Pelots Bay, Isle Lamotte, North Hero and the waters surrounding Grand Isle. A magnificent yellow pike, weighing ten pounds, was caught last Friday four miles from Rouse's Point, the successful lure being a large spoon of the Buel pattern. Special efforts are to be made this fall and winter towards the stocking and protection of Champlain finny denizens which will no doubt result in making this superb body of water the best angling grounds in the State. The Delaware and Hudson people, in conjunction with the other roads centering at Rouse's Point, intend erecting a handsome and commodious station to take the place of the present totally inadequate and unsightly building. Plans for their building have been prepared, and when put into execution Rouse's Point will have a structure of which she will have every reason to be proud. Indications at present point to the probability of the travel on the northern division of the popular and enterprising Delaware and Hudson during the season of 1888 greatly exceeding the phenomenal one just drawing to a prosperous close.

STRIPED BASS AT ELTINGVILLE, N. Y.

(Reached via Staten Island Rapid Transit Co.--R. W. Pollock, Gen. Traffic Manager, New York.)

The following reports confirm our record of excellent striped bass fishing "all along the line:"

Mr. John O'Donahue, of this city, on Oct. 12th, caught at Eltingville 49 striped bass, largest weighing 7 lbs.; length 2 ft. 6 in.; bait blood worms; water smooth, clear weather and northwest wind.

Mr. Garrity, also of this city, on the same day with similar bait and conditions, 13 striped bass, largest 2 lbs.; 13 in. in length.

NEW DORP, STATEN ISLAND, Oct. 17.—The fishing for the past week has been very good. Weakfish bite fairly well at shedder crabs on most any tide. Striped bass bite freely at sand or blood worm at beginning of flood and up to high water. Some very nice strings have been taken this week.

Mr. T. Tyson, of Brooklyn, caught 27 striped bass Wednesday and 24 on Thursday, medium sized.

A string of 67 was taken by a single fisherman from New York on Tuesday, a majority striped bass mixed with a few weakfish and kingfish. If this weather continues fishing for the next week will be good. N. D.

The Sportsman's Guide—In Preparation.—This guide book will give the location of many thousand shooting grounds in America, with directions how to reach them, cost of hotels, guides and livery, character of shooting grounds, with the description of the game thereon. Handsomely bound in cloth and gold. Price \$1.00, postage free. Address THE AMERICAN ANGLER, New York.

Messrs. F. Laurent and A. F. Herbert killed a gar fish in Lake Arthur, La., measuring seven feet six inches long, four feet around middle, head two feet long, one foot wide and ten inches between the eyes. It weighed two hundred and twenty-eight pounds.

Registry of Fishing Waters.

ISLAND POND, VT., one of the most attractive fishing points in the United States, is 152 miles from Portland, Me., and is reached via the Grand Trunk Ry. Within radii of half mile to ten miles are thirty-four streams, ponds and lakes which abound with brook and lake trout, land-locked salmon and pickerel. These waters are considered the best in the Northern States by a few knowing anglers of Boston, Portland, etc. The trout streams from half a mile to four miles distant are eleven in number and afford excellent sport during the entire season. The land-locked salmon and lake trout are found in five lakes, the latter having been caught up to thirty-two pounds. The STEWART HOUSE, located in the center of the above waters, is a new and commodious hotel with large airy rooms, billiard and bath rooms and a first-class livery at moderate charges. For rates and further details address W. A. Richardson, Island Pond, Vt.

MASTIGOUCHE HOUSE, COUNTY BERTHIER, PROVINCE OF QUEBEC—E. M. Copeland, Proprietor.—This sportsman's resort has just been opened to the public and is situated in one of the most beautiful and romantic spots in the Province, among the Laurentian Hills; distant east from Montreal eighty miles, and 2,000 ft. above the St. Lawrence River. The lakes, some twenty in number, are replete with trout (*S. fontinalis*) only. Plenty of caribou after September 1, opening of season. Address Mr. Copeland, at St. Gabriel de Brandon, P. Q.

GREENWOOD LAKE, N. Y.—Fuller House at Cooper Station; first lake station reached and best fishing grounds, affording two hours' more fishing than any other point; the angler's favorite resort. Terms \$2 a day. Good guides, new boats and plenty of bait. Open the year around. Special facilities for anglers, who will find themselves at home.

LAKE CHAMPLAIN, VERMONT.—Samson's Lake View House St. Albans Bay, Vermont, situated on the *Great Back Bay*, centrally located near the best and most extensive black bass fishing grounds of the lake, delightful summer resort for families, open June 1. Send for descriptive circular with diagram of the *Great Back Bay*. Popular rates. House first class. Address "Samson's" Lake View House, St. Alban's Bay, Vermont. Open season, June 1 to Feb. 1.

QUEBEC AND LAKE ST. JOHN RAILWAY.—This railway, now completed as far as Cedar Lake, 136 miles north of Quebec, runs through a perfectly new country, hitherto entirely inaccessible to sportsmen, and abounding in rivers and lakes stocked with fish. At Lake St. John, 184 miles from Quebec, the celebrated land-locked salmon ("*ovinaniche*") abounds. Good authorities state that this district offers the best fishing ground for trout in North America. Moose, caribou, beaver and game of all kinds abound. Two trains each way daily. J. G. Scott, Sec. and Manager, Quebec, Can.

PUBLISHERS' DEPARTMENT.

The Fishes of the East Atlantic Coast.—A practical book on the salt water fishes of the Atlantic Coast, giving the scientific and popular descriptions, habits, habitat, when, where and how to catch them, of forty-two fishes that are caught with hook and line; twenty-eight engravings drawn from nature. Handsomely bound in cloth. Price \$1.50, postage free. Address THE AMERICAN ANGLER, New York.

The New Agriculture; or, the Waters Led Captive.—This work describes the methods discovered by Hon. A. N. Cole, through which the farmer and the market gardener can increase their crops fourfold. The system provides effectually against the effects of drouth and frost, and is indorsed by all the prominent Farmers' Clubs and other agricultural authorities. Fully illustrated and handsomely bound in cloth and gold. Price \$2.00, postage free. Address THE AMERICAN ANGLER, New York.

The Anglers' Guide to the Fishing Waters of the United States and Canada—Third Edition.—This book is invaluable to the angler and tourist. It tells how eight thousand fishing waters are reached, the species of fish therein, hotel accommodations and cost, cost of guides, boats, etc., baits used and the best months for fishing. It also contains a summary of the fish laws of the States and Territories and those of the Canadian Provinces. Handsomely bound in cloth. Price \$1.00. Address THE AMERICAN ANGLER, New York.

TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 26, April 1, 8, 29, May 5, '82.
The Carp from an Angling Standpoint. Nov. 19, '81.
Deep Trolling in Fresh Water. Dec. 21, '81.
Chub Fishing with the Fly. Dec. 21, '81.
Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
Modern Tackle and How to Use it. April 8, 15, 22, 29, May 6, 20, '82.
Holding Hard and Killing Quick. April 1, 29, '82.
Catching Shad with the Fly. April 15, '82.
Basket Straps, Shoes, etc. April 22, May 5, June 3, '82.
Baits Used in Salt Waters. May 6, '82.
When to Strike. May 20, June 10, July 15, '82.
Trout of the Yosemite. May 27, '82.
Trolling for Lake (Salmon) Trout. May 27, '82.
The Reel, Gaff and Rod. June 3, '82.
Trolling for Bluefish. June 17, '82.
Tackle and Traps. Aug. 12, '82; March 15, '84.
Light vs. Heavy Rods. Aug. 26, '82.
Waterproofing Fish Lines. Nov. 18, '82.
Trouting in the White Mountains. Dec. 2, '82.
What is a Pike? What is a Pickerel? Illustrated. Dec. 16, '82.
A Sole Leather Bait Box. Illustrated. Dec. 23, '82.
Striking and Playing a Fish. Dec. 30, '82.
The White Perch. Illustrated. Dec. 30, '82.
A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
A Treatise on the Black Bass—Habitat, Modes of Capture, etc. Illustrated. Feb. 3, 10, 17, 24, '83.
A Strawberry Bass. Illustrated. Feb. 17, '83.
A Treatise on the Pike—Habitat, Tackle Used, etc. Illustrated. March 3, 10, 17, 24, '83.
The Reel—Its Place on the Rod. March 24, April 14, June 16, '83.
The Atlantic Salmon, Scientific and Popular Description—Habitat and Capture. Illustrated. March 31, '83.
Minnows as Bait. Illustrated. April 7, 14, 21, '83.
Catching Flounders. Illustrated. April 7, '83.
The Trout of Maine Waters. April 14, 21, 28, May 5, '83.
The Trout Streams of the United States and How to Reach Them. April 14, '83.
A Serviceable Fishing Boat—How to Build it. Illustrated. April 21, '83; Dec. 20, '84.
Making a Split Bamboo—Amateur Work. April 28, '83.
Varnish for Rods. May 5, '83.
A Treatise on the Brook Trout—Habitat, Habitat and Capture. Illustrated. May 12, 19, 26, June 2, '83.
The Colorado Mountain Trout. May 12, '83.
A New Minnow Fall. Illustrated. May 12, '83.
The Striped Bass—Rock Fish—Description, Modes of Capture, etc. Illustrated. May 26, June 2, '83.
The Split Bamboo—Its History, etc. May 19 and June 2, '83.
A Treatise on the Bluefish and Weakfish. Illustrated. June 9, '83.
The Smelt of Sebago Waters—Description, Capture, etc. Illustrated. June 16, '83.
A Treatise on the Sheephead. Illustrated. June 16, '83.
The Lake Trout—Where, When and How to Take Them. Illustrated. June 23, 30, July 7, '83.
The Kingfish and Bonito—A Practical Essay. Illustrated. June 23, '83.
A Treatise on the Black Drum and Spanish Mackerel. Illustrated. June 30, '83.
How to Play a Black Bass. June 23, '83.
A Treatise on the Blackfish and Flounder. Illustrated. July 7, '83.
Black Bass Minnow Bods—Their Construction, etc. July 7, '83.
A Treatise on the Lake Herring—Clisco. Illustrated. July 7, '83.
The Sea Bass, Bergall and Tomcod—How, When and Where to Capture Them. Illustrated. July 14, '83.
The Codfish and the Haddock—How Taken on the Hook. Illustrated. July 21, '83.
Amateur Rod Making. Illustrated. July 21, Sept. 29, Oct. 13, Oct. 27, Nov. 17, Dec. 22, '83; Jan. 5, 12, 19, 26, Feb. 2, 9, 16, 23, '84; Jan. 3, 10, '85.
The Henshall Rod—Dimensions, etc., given by Dr. James A. Henshall. July 21, '83.
A Treatise on the Lafayette (Spot) and the Menhaden. Illustrated. July 28, '83.
The Shad and Snapping Mackerel. How, When and Where to Take Them. Illustrated. Aug. 11, '83.
Anglers' Knots. How to Tie Them. Illustrated. April 8, May 6, 13, '82; Aug. 18, Sept. 8, Oct. 6, '83.
By-laws of a Fresh Water Club. Aug. 18, '83.
A Treatise on the Hogfish—Salters' Choice. Illustrated. Sept. 1, '83.
A Treatise on the Pike-perch or Wall-eyed Pike—Habitat, Habitat and Mode of Capture. Illustrated. Sept. 8, 15, 22, 29, Oct. 6, '83.
Dressings for Flies. Sept. 29, '83.
The Blaby Trout—Scientific and Popular Description; How they are Caught, etc. Illustrated. Oct. 13, Oct. 20, '83.
Rod Joints. Illustrated. Oct. 20, Nov. 10, '83.
Description and Review of the American Anglers' Casting Tournament. Oct. 21, 28, '83; Oct. 20, 27, '83; Oct. 18, 25, Nov. 1, '84; Oct. 24, 31, '85; May 23, June 4, '87.
Fly-fishing for Trout. Oct. 27, '83.
Fishes of the East Florida Coast—How, When and Where Taken. Illustrated.
The Channel Bass. November 10, 17, 1883.
The Salt Water Trout—Florida Weakfish. 17, "
The Red Grouper. 17, "
The Rock Grouper. 17, "
The Pompano—Po. 24, "
The Crevalle or Creval. 24, "
The Mangrove Snapper. December 1, "

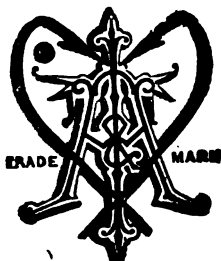
- The Ladyfish—Skipjack—Bonetish. December 1, 1883.
The Jewfish. 1, "
The Sergeant Fish—Crab Eater. 8, "
The Tarpon—Tarpon. 8, "
The Black Drum. 8, "
The Salt Water Catfish—The Conger Eel and Mullet. 15, "
The Best Bait for Black Bass. Illustrated. Dec. 18, '83.
The Fishing Grounds of Florida—Tackle and Lures. Dec. 22, '83.
Trout Fishing on Rapid Streams. Dec. 29, '83.
The Trout of Northern Michigan. June 9, '83.
Reason and Instinct in Fishes. Nov. 24, '83.
Preserving Fish as Specimens. Jan. 26, '84.
Black Bass Fishing in Lake Champlain. Feb. 2, 9, 16, 23, '84.
Fishing for Sea Trout. Feb. 9, '84.
Black Bass Grounds Near Baltimore, Md. Feb. 23, '84.
When and How to Catch Weakfish. May 10, '84.
A Treatise on the Land-locked Salmon. May 17, '84.
Game Fishes of the Northwest. May 24, 31, June 28, July 19, '84.
Black Bass Fishing at Henderson Harbor, N. Y. July 12, Aug. 30, Nov. 1, '84.
The Dead River Region of Maine. July 12, '84.
How to Reach the Nipegon. Aug. 9, '84; Jan. 31, '85.
A Treatise on the Strawberry Bass—Croppie. Illustrated. Aug. 23, '84.
Spinning for Large Trout. Aug. 23, '84.
Hints for Practical Trout Fishing. Sept. 13, '84.
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Sandals for Rubber Wading Boots. Illustrated. Sept. 20, '84.
History of the Fish Hook. Oct. 4, '84.
Habits of Trout. Oct. 4, '84.
Insects as Angling Lures. Sept. 27, Oct. 4, 11, 25, '84.
English Methods of Bait-casting. Illustrated. Oct. 18, '84; Jan. 23, 30, Feb. 6, '85.
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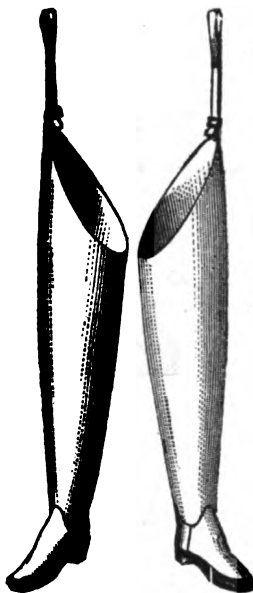
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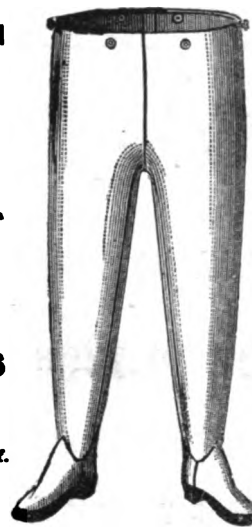
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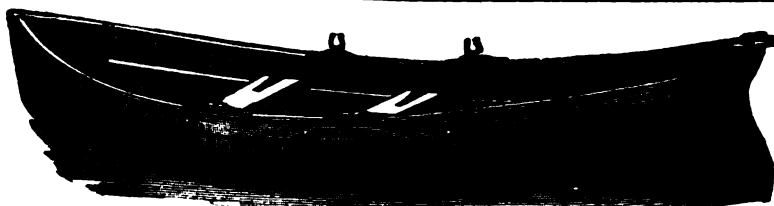
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NEW YORK—CHICAGO, OCTOBER 29, 1887.

VOLUME XII, NUMBER 18.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Boulevard St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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HOW AND WHERE EELS SPAWN.

The question of the spawning of eels has so long been a matter of hot dispute among the best scientists of many lands that nothing new upon this subject can well be expected except from the highest sources. Nevertheless THE ANGLER is frequently asked questions upon the subject by those who have not the time or inclination to hunt up the question in the books.

The theory that eels are complete hermaphrodites, each specimen having both male and female organs of reproduction, and that they were thus self reproductive, has been advanced and was widely believed, but this theory has not been supported by later observations and the idea of hermaphroditism is regarded as exploded. The periodical migration of eels from fresh to salt or brackish water has been regarded as a proof that all eels spawn only in such waters

and never can reproduce in fresh land-locked waters, those remaining there being all barren females. Mr. J. N. Sawyer, whose observations on the subject appear in one of the U. S. Fish Commission Bulletins, doubts this and believes that while some of them do others do not. In support of this he cites the fact that after the subsidence of the January (1836-1837) flood in the Delaware River "wagon loads of eels of all sizes were found on low places." He further mentions that a neighbor "built a very tight dam, so constructed as not to permit any fish or eels to ascend. By this he overflowed quite a tract of land, and placing some eels in the pond left them to breed. After a period of fifteen or twenty years he placed an eel-weir in the dam and drew off the water to drain the pond for a meadow, catching barrels of eels of all sizes."

Many insist, however, that the males of this species never ascend the streams and rivers, but remain in the salt and brackish waters near their mouths awaiting the annual migration of the females.

Any original observations bearing upon this point ought to be carefully noted and made public.

FOR THE AMERICAN ANGLER.

A REVERIE AT CAMP HOLLYWOOD.

BY J. CLEMENT FRENCH, D. D.

Oh! dreamy, tuneful woods! What voice
Hast thou of all the storied past?
In sweet communings we rejoice;
Would that the reverie might last!

Oh! towering, needle-fingered pine!
In whispered accents breathe to me
The story of this sylvan shrine,
The home of bird and wilding bee.

Oh! beach tree, green with vest of moss,
Nut-laden for the squirrel's feast,
What say the winds that coyly toss
Thy banners towards the dewy East?

Oh! knotted oak, with arms of might,
Wrapping traditions round thy breast,
Tell what the silver-shafted light
From day-spring bears to golden West!

Oh! tuneful woods! my spirit's home,
Kin to my dreams when far away,
Thy mute aisles let my memory roam,
Inspire my lute and tune my lay!

The U. S. Fish Commission steamer Albatross will leave for the Pacific coast (Alaska) early next month. She will be in charge of Lieutenant Tanner.

CRUISE OF THE WHITE HEIFER.

BY D. D. BANTA.

III.

FALSTAFF.—Pr'y thee no more prattling; go. I'll hold. This is the third time; I hope good luck lies in odd numbers. Away, go; they say there is divinity in odd numbers, either in nativity, chance or death. Away!

—*Merry Wives of Windsor.*

Behold the late despondent crew of the White Heifer aboard a staunch tug steaming along at the rate of ten miles an hour and the island of their dreams rising like a cloud of blue mist to their enraptured sight far out over the pulsing waters! How happy our travelers were and all the more so when they happened to look back and see their old boat at the end of her fifty-foot cable leaping and plunging along willy nilly. "See that old White Heifer," exclaimed the Judge, holding his new hat in one hand and slicking his bald head with the other; "Don't she have to come it? M! m!" And, in spite of the charming island scene opening to their gaze, all save the Parson and the Professor went aft to gloat over the judgment that had befallen the White Heifer. The Parson and the Professor, not having sailed in her, had no cause to laugh at her calamity.

What grand views these northern islands and mainlands do present on favorable days! How transparent the atmosphere and in what bold relief the rock walls and the mountains and the hills stand out against the blue northern sky!

Isle Royale is fifty-one miles from northeast to northwest between Blake Point and Stoney, its extreme eastern and western extremities. Across the island at its widest place is eight miles and at its narrowest is two and a half. Three-quarters its entire distance it is between five and six miles wide. From the Keweenaw shore north by a little west it is about fifty miles of a sail and across to the Canadian side is about twenty miles.

Isle Royale must be a region of great interest to the geologist. It is the outcome of an upheaval of trap rock in the remote past and is the counterpart of the Keweenaw trap range on the American shore. The same force that produced the one no doubt produced the other. In both the same kinds of rocks and minerals are found. The dip of the Keweenaw strata is towards Isle Royale and of the Isle Royale strata towards Keweenaw; or, in other words, the rock layers slope from the two sides, Keweenaw and Isle Royale to a common center. All the evidence thus far gleaned warrants the assumption that the outcropping copper rock strata on both island and mainland constitute the two exposed edges of one continuous sheet lying beneath the floor of the lake between them.

As the dip of the island rock is southward toward the American shore, a little reflection will suggest to the reader that we need not look for high and rugged rocky bluffs along the south shore. The island rises into a backbone of hills from 200 to 400 ft. high and from this backbone the descent toward the Keweenaw side is in the main gradual all the way down to the water's edge, and, for that matter, all the way down to the deepest parts of the lake. Of course this descent is uniform only in a general sense. There is within limits diversity—a diversity great enough to give scenic views of marked wildness and beauty.

A great extent of shoal water lies on the south side of the island as a consequence of the southern dip of the rocks, a fact worth the attention of the fisherman as well as of the navigator.

Another feature equally worthy of notice is the difference of power to withstand the wearing forces of weather of the different strata composing the rocks of the southern shore. Of these strata, composed as they are of green stone, ash-bed, conglomerate, etc., with their upturned edges lying parallel to the shore, it may readily be seen that the softer ones would be soon excavated by ice and water into long, narrow bays or pockets lying parallel to the shore and bounded on their two longer sides by walls of the harder strata. This very thing has been done to a marvelous extent, and as a consequence the entire south shore is marked by bays running up and down the shore, and all of which were once long, narrow inlets such as above described. Inside walls of the harder rock having been worn away altogether, in some instances, two or more of the narrow bays has thus been united into a wider one. Quite frequently a wall of harder rock has been cut through in numerous places, and its former place is marked by a long line of islets. One will be surprised at the great number of small islands lying along the south shore of Isle Royale.

The east end of the island is toothed with little bays extending into the mainland. Most of these are from a quarter to half a mile in width, and the intervening land points are about the same. These bays and points are known to sailors and others as "fingers," because of their resemblance to a hand of spread fingers.

Isle Royale is remarkable for its many bays and inlets, the most noted of which is Rock Harbor, Chippewa Harbor, Siskot Bay and Washington Harbor, all on the south shore except the last mentioned, which is on the extreme western end. On the north there is McCargoe's Cove and Amyodaloid Island Harbor and on the southeast Todd's Harbor. There are numerous other small and mostly unnamed harbors, principally on the south side and among the "fingers."

One of the most interesting of the harbors and the one of which I perhaps know the most is Rock Harbor. A brief description of this will add to one's knowledge of the constitution of the island.

Rock Harbor belongs to the system of "fingers" so well developed at the east end of the island. In truth, Rock Harbor has its beginning at the east end and pushes down to shore a distance of from fifteen to eighteen miles. Its north side is bounded by the island mainland, while its south is hemmed in by a chain of islands following close upon each other nearly its entire length. There may be a hundred—nay, five hundred—in all of these islands, for aught I know. There was a time in the history of the region when, in lieu of the islands, there was one long, narrow strip of hard rock, thinly covered no doubt with soil and trees, but hundreds of gaps having been cut through the strip of rock, as many islands now lift their green summits above the plashing waters and still serve to protect Rock Harbor from the fierceness of the storms. The bay itself is less than a fourth of a mile wide in many places, and I doubt if it attains a mile in width at any place, and is deep enough to float the largest steamer on the lakes its entire length.

Rock Harbor is not the only one fingered with islands

Siskoet Bay, a broad sheet of water near the middle of the south shore, has a fringe of islands extending more than half its length between it and the lake proper. On Menagerie Island, the most northerly one of the series, a government lighthouse is maintained.

Islands, shores and lake floor, all are of rock. There is neither sand nor clay. The rocks constituting the lake floor are seamed and cracked in every direction, and great holes and chasms are everywhere to be found, deep water and shallow are constantly alternating.

I have been thus particular in my description of certain features of the island for the benefit of sportsmen readers, for I know of no better place just now to go a-fishing in midsummer than to Isle Royale. If to the numerous bays and inlets of the region, to the deep and shallow waters, to the rocky shore and rocky lake floor, we add a sea of clear, pure, spring-cold water, we will have the conditions that not only foster fish, but the very best that fresh water can foster.

It must be remembered that the higher the latitude the fewer the animal families represented. This is peculiarly true of the fish. I think it likely a central or southern Indiana stream has in its waters a wider variety of fish than could be found in all Lake Superior. Mind, I say I *think*. I do not know, but the statement, whether close to or even wide of the mark, serves to emphasize the proposition that the families of fishes represented in that lake are comparatively few.

But if families are few, individuals may be many. I have seen streams in the Upper Peninsula fairly swarming with speckled trout and not another fish to contest possession with them. These Isle Royale waters abound in fish. Here may be found the very best varieties and the very best of these varieties. Here the fisherman may go and enjoy the very best sport to be had anywhere. It is the superlative all around.

It was to Rock Harbor we were steaming the morning in question. As we approached the island it was apparent its eastern ridges and slopes were densely wooded, while its middle parts and its western presented in the clear sunlight vast areas of naked rocks. In the neighborhood of Siskoet Bay great clouds of smoke were seen hanging low over the island and we suspected what we afterwards learned to be the truth, that forest fires had done much toward devastating it of its timber.

At the western entrance to Rock Harbor there stands a lighthouse which has been abandoned by the government. This vicinity was once noted for the mining here carried on. We found the sites of three extensive mining establishments of forty years ago and during those flush times the lighthouse was a necessity.

On reaching the lighthouse harbor we were surprised to find evidences of present occupancy. Somebody, we were sure, was making that a sort of headquarters. A heap of stove-coal on the shore, a half-finished mast on the trestles, an old fishing net on the dock and a box of dynamite cartridges in the old boat house, together with some other things lying around, told us that. We were not left to guess as to who the occupants were for long. Before we had fairly set up housekeeping in and about the old lighthouse a tug steamed into the harbor having a large

schooner in tow. The fifteen or twenty men in charge were wreckers engaged in wrecking the Algolah, an iron propeller belonging to the Canadian Pacific Railroad, which was lost in a snow storm on Isle Royale with a loss of forty and odd souls in the November before. Captain Merriman was in charge of the wrecking crew and Captain John Buzzard, of Port Huron, was master of the schooner Lamb. Captain Montgomery represented the railroad company with good pay and not much to do.

Our camp we established at the lighthouse and a pleasant enough camp it proved to be. The wood house served us for kitchen and store room. In one of the lighthouse rooms we set up our table. In others we hung our best clothes and in the lawn overlooking an archipelago of little islands we set our tents and of evenings made our camp fire.

Our information respecting the fishing at Rock Harbor was of the most general character. We had been assured the fishing was superb, but where and how it was to be had were problems we had to solve. The wrecking crew could give us no information, for, strange as it may sound, there was not a fisherman amongst them all.

The map showed a stream entering the harbor from the mainland and, supposing that to be a trout stream, certain of the crew were asked concerning it. O, yes, that was a splendid trout stream. They had been to it several weeks ago and had by using dynamite secured a fine lot of fish. Great heavens! Had we spent nearly two weeks and fairly suffered shipwreck to reach an uninhabited island to find the typical American already there dynamiting its trout streams?

I visited the stream to find it a dry run. If there ever had been any trout there—and I doubt not during the spring months there had been—there were none now.

Near its outlet, however, we discovered the seat of an early mining industry. The sites of the miners' cabins and of a primitive crushing mill and of a sluiceway and of old diggings were plainly to be seen. About forty years ago quite an industry was carried on here, during which time one of those tragedies happened which now and then serve to keep a place in lasting memory.

The story in brief, as I afterwards got it from the lips of an old miner, was to the effect that the persons in charge of the mine set forth one November day to sail to the mainland for the winter's provisions, leaving in charge a man and his wife. After a stormy passage the boat reached shore, but a great storm set in which was followed by a fall of temperature that kept up till the lake was full of ice and as a consequence a return to the island was out of the question. Provisions failing the man and his wife, the former sickened and died, leaving the woman alone. With a courage unprecedented she excavated a vault in the snow, into which she managed to convey the dead body of her husband, after which she began the struggle for food. Isle Royale, like all other Lake Superior islands, was and still is prolific in northern hares. These animals infested the mining camp and the woman made snares of her own hair, which she plucked for the purpose, with which she snared the hares. She also cut holes in the ice and when the weather was not too bad caught fish, and on fish and hares' flesh she managed to support life till rescued in the spring.

The miners on their return found that her reason was overthrown. She fled to the rocks on their approach and it gave her friends considerable trouble to apprehend her. Ultimately coming around all right, she and the dead body of her husband were taken over to the mainland and she is yet living to tell the story.

Evidences of the former occupancy of the country by the copper miners was everywhere to be seen. A couple of miles to the eastward a tall white chimney stack marked the site of an ancient mining establishment. Time and its attendant storms had long since wrecked the wooden structures, but the stone chimney was still standing an enduring monument to an industry that no longer exists on Isle Royale. The population, mining and fishing, of the island was large enough in 1875 to warrant the State of Michigan, of which the island is a part, to incorporate it and its surrounding islands into the county of Isle Royale, but with the transference of all the mining interests to the mainland that population has entirely disappeared. A few fishermen come during the season and ply their trade, but outside of the lighthouses there is not a permanent resident on the island. And for that matter the lighthouse men are not permanent residents. With the closing of navigation they retire to the mainland.

Other reminders of the former occupation of the island are met with here and there. Close to our camping ground was a grave overgrown by bushes and on Caribou Island, the largest one of the series lying between Rock Harbor and the lake, was a graveyard dedicated by the mining occupants. A dozen or more graves, surrounded by "paling" fences, marked each grave, though why so surrounded was not apparent, inasmuch as I do not suppose a domestic hoof has ever been on Caribou Island. The graves were further marked by head boards, some of which were still standing, so durable was the wood of which they were made, and on each was graven in rude letters legends of affection and of hope, so characteristic of our race and of our religion.

NEW PATENTS OF FISHING TACKLE.

The following patents of fishing tackle have been recently reported for us by Mr. Franklin H. Hough, Solicitor of American and Foreign Patents, Washington, D. C.:

- No. 368,277.—W. B. Carpenter, Newark, N. J.—Fishing line reel.
- No. 368,922.—W. D. F. Jarvis, Philippi, W. Va.—Fishing line reel.
- No. 370,684.—Thomas H. Chubb, Post Mills, Vt.—Fishing reel.
- No. 370,702.—E. W. Jenkins, Milford, Mo.—Fish trap and feeding pen.
- No. 371,777.—C. McCabe, Cumberland, Md.—Automatic fishing device.

RAPID LOADING MACHINERY.—The sportsman who has to sit up for an hour or so after a hard day's tramp to load shells enough for his next day's sport can hardly be regarded as a happy man and his morals are apt to degenerate. With this in view the Bridgeport Gun Implement Company, of 17 Maiden Lane, this city, have brought out and placed in the market a novel and complete set of Rapid Loading Machinery of new model and exceptional workmanship, with which this work can be performed in a most satisfactory and rapid manner. The company claims for this machine that it seats the wads with even pressure. The adjustment of charger gauge and changing of powder, shot and wads only consume one minute. For simplicity, speed, safety and good work the Rapid Loading Machinery has no rival. The adjustable trough, power lever and fly wheel of the new model closer reduce the cost of crimping shells by fifty per cent. Steel crimping cups, adjustable to the closer frames, will be mailed free on receipt of \$3.00 for each gauge. These cups produce a square-cornered crimp and will outlast four brass cups.

KNIFE RIVER.

Another trouting season ended; the autumnal gales lash the blue waters of Kitchi Gammi into feathery foam, while the intense force that dashes the masses of water against the blue gneiss howls and moans. The fierce north-easter heaved the heavy seas and snatched the top from off each wave for three days, and then, as if wearied and sullen, they sink into a low, dead swell, and wash away up the sandy beach. The blue turns to a gray. The heavy clouds overhead are dark and threatening; away off in the distance the water and sky meet, and everything seems to partake of the same sombre hue; a feeling of blueness creeps into the blood of the most enthusiastic angler, for the storm god has hurled the fleecy clouds into a dark and compact blanket, and done his best to swallow up the angler who has dared to attempt any fishing at the mouth of a favorite stream emptying into the "Lake of the Great Waters."

From the high plateaus surrounding the great lake the angler looks over a vast expanse of water, hundreds of feet higher than his brethren in the middle tier of States—nearly a thousand feet above old Atlantic's coast—with eye undimmed, with senses keenly alive to the beautiful scenes that lie at his feet, with the knowledge that north of him lies many a trout stream that cannot be measured by the gauge of an angler's dreams; that south of him in another State are fine trout waters, and beyond the ken of his vision there are yet streams unfished except by the Indian. The scene to-day is a dismal one. Two days hence climb these plateaus and inflate your lungs with this thin, dry air; the blue vault above you, an inland sea at your feet, just rippled by enough breeze to send the small yachts and sailboats at a lively gait; the hills just tinged with gold, for the first frosts have come; the oaks and maples are turning, and just one or two days remain for another trouting trip ere the season closes.

Autumn in Minnesota is the loveliest time of all the year, and the closer you take your fishing trip to the close of the season the more enjoyable is the trip. The mosquitoes and flies are gone; the air is just tinged with enough freshness to enable one to walk miles without any warmth or weariness. Knife River had not been fished by your subscriber; yet often tales had come to him of big fishes and of large baskets of trout. The maps show the river draining an immense tract of land; surveyors and pine hunters tell of trout, of beaver meadows, of deep holes in the river containing unnumbered quantities of trout, hence Knife River had been the desire of his heart through three seasons, but somehow the chance of visiting it never came; plans for going always tumbled to pieces.

Two gentlemen hunted for an angler to go with them. Duluth has one preacher who believes in out-doors and takes his fishing trips. Though a scholar and an eloquent divine, he is not a book worm. He knows the weak points of your scribbler and as he could not go with these gentlemen he begged the undersigned to go with them, and the next morning he introduced me to a brother of the cloth from Chicago and a Baptist Deacon from Kansas. I found them possessing primitive fishing tackle and "wums" for bait.

Jumping on the Duluth and Iron Range R. R. train, we

started northwest twenty-two miles and soon landed at Knife River, an exceedingly pretty water emptying into Lake Superior. At the mouth is a small island just big enough for a camping ground and as we jumped off the train we found two gentlemen and three ladies with necessary camp "calamities" tumbling off the train, intending to camp a few days on this island. We were not after camping places just then, but trout, so pushing up over the hills instead of following the windings of the river, and again descending the hill, we soon came to an old lumber camp on the bank. Across the river appeared to be a distinct trail that must lead somewhere. I argued that it was a cut-off of a big bend in the river and, being used to running trails when trout and grayling fishing in Michigan, naturally wanted to "wrestle" with this one. My fishing companions were accustomed to the broad prairies and didn't know about going on a blind chase. However, we went it blind, but knowing that the sun was behind us and the river to our right. The brush was too much for my companions and they struck and proposed I should find the creek while they rested. I forged ahead and slightly to the right and after covering fifty feet came to the river. While they rested and prepared lunch I jointed my lance-wood rod, fixed the rod of the Kansas deacon, put on a worm for him and in five minutes from striking the river I dropped a trout into their midst.

"Well, I declare! First blood for Duluth! That's a handsome fish, T——."

During lunch we discussed theology, doctrinal differences and church government. The two wet deacons were too much for the broad gauge Congregational parson and for once the laity were in the ascendant.

"Lunch is over. Say, brethren, we shan't get any trout," and to fishing we went.

They started up stream. I wanted to try some trouty looking holes down stream and got some small fish—gamy enough for anything, but too small. I then started up stream two hours behind the other anglers and though finding their tracks I began to fill my creel with fine trout. But such a river! Stones big enough for a house; big stones, little stones, nigger heads, rocks split in two and confusion everywhere; huge trees lying across the river and, to my surprise, a beaver dam across the stream, making a splendid pool. I thought that beaver had left this section of country, but here was a dam, and constructed since the spring freshets. I got about half a dozen nice trout from this pool and pushed on up the river, anxious to find my companions. Turning a bend in the river I found a big pool and my friends getting some trout. Pulling my wading boots as high as they would come, I slipped in the pool and cast into the deepest hole. I was fishing with a white silk line with about ten feet of dark line at the end and the point where the lines joined was always in sight, being visible just beneath the surface of the water. Every time a trout struck this white knot showed the first movement. I strike from the reel and never miss my fish, never yank them or send them flying overhead, and if I get a big one he is well and safely hooked and I allow him all the time he wants for splurging.

"Well, if T—— isn't catching trout with a vengeance I'm a fool!" came from the Kansas man.

Another goodly fish came to the surface and was led into the hand, taken from the hook and killed, then slipped into my creel. I caught a large one and the Parson duplicated my catch and claimed the biggest. I had no scales, but mine proved the longest fish and weighed over a pound. These Lake Superior fish are very handsome and gamy. You never know how many are in the pools. The water is too dark to see them until they come to strike your bait. They are not cultured or educated. "Nary" a splash or break on the surface. They would not deign to look at a fly and the angler who went without "wums" in September would get left.

My basket was getting heavy and the fish numerous; the Parson was getting enthusiastic and wanted to stay all night. His fishing blood was up and long stretches of river remained unexplored. Reports had come to us of large pools formed by beaver dams, but the sun was waning and we were miles from the railroad. The Kansas deacon expected to return that night. His good lady would worry if she had no tidings of him. I had for some days been under the weather and was not prepared to stay away all night, because a little woman, the companion of many a fishing trip in the past twenty years, knew I was not in good condition for severe fishing and would worry if I was missing after train time. So we determined to come home. I started for the train, but, cumbered with heavy wading boots, I made poor time and got to the hilltop just in time to see the train cross the bridge over Knife River; hence got left.

Reaching the railroad I sat down and rested and soliloquized: "Twenty miles from home. What is twenty miles? Many a time I have walked twenty miles in Michigan when trout fishing. I can do it again," forgetting that I was twenty years older than when I first fished the Boardman, Boyne and Jordan, and that office work and impaired health for three years had taken the "git up" out of a vigorous angler, and forgetting the weakness of the last two years had left me not at all in a fitting condition to "count the ties" for twenty-two miles of railroad track. But I was going home. "Pike's Peak or bust."

Getting my creel into the best possible shape for a long tramp, I measured and counted ties until mile after mile strung out, until night set in, and the rain came down enough to drown any one. The winds blew, the lightning flashed and in the darkness between flashes I felt my way across trestle-work bridges fifty to seventy feet above the rivers. I cannot say how many trestles we crossed, but it was no fun feeling for ties on trestles three hundred feet long. The storm passed, but a denser blackness came over, shutting in even the twinkling of the stars. We stubbed our toes, then slipped down the bank, but through all I hung on to the creel of trout and the fish rod.

Eleven o'clock, and we crossed Lester River bridge—the last, thank Heaven! From this point a good driveway extends to Duluth, seven miles, and the electric lights of the city guide the weary and sore feet. We plodded along until we reached the hill overlooking the fair young city of the Northwest. Here the electric lights went out, and, beaten out, we lay down on a rock to rest and went to sleep. We slept but a few minutes, but it seemed an age. Slowly crawling to our feet we again turned homeward. As we

entered the city we felt the loneliness—not a soul on the streets, not even a policeman accosted us, as we set our tired feet on the steps of the house. Puss, my favorite setter, gave a short snap and then began to raise the house. As plain as a dog could tell she said: "The boss has come home!" The young fisherman pulled off the lumbering, heavy boots, and in a short time I was in bed.

My trout were taken out of the creel, the sand wiped off them, and then counted—sixty of them! Oh, what beauties!

"They are the handsomest fish you have ever taken since you came to Duluth!" This all came from the little wife and a great deal more. It had been a night of worry with them. They had gone to the depot in the darkness and rain to see if the train had come, and at midnight had retired wondering if anything had occurred to us that kept us from getting to the train. Even the dog sat at the window and watched.

The twenty-two miles were too much for me. I caved under the strain, but the Duluth parson got some of the trout for breakfast that morning. The Kansas deacon's wife had a platefull of fine trout sent to the house where she was staying, and the welcome news, "the deacon was well, and would be home with the Chicago gospel-pounder on the noon train."

My rod and fishing tackle are still in good shape, and though for once I made a fool of myself by attempting more than I was physically able to accomplish, yet another summer I intend taking the wife with me and spending two days at Knife River. The charm of the single day's fishing will remain through the biting cold and dreary snows of our almost Arctic winter, and we have the advantage of knowing just where to go to get the cream of fishing.

Duluth, Minn.

W. DAVID TOMLIN.

A CAMP-FIRE YARN.

A correspondent of the *Washington Star* contributes a story as told in front of a camp-fire in New Hampshire, in which an amusing instance of "foresight gone wrong" occurs, as follows. The writer, when a boy, had elaborately planned, together with a companion a sporting tour, and says: "We didn't have much spare cash and were compelled to be economical. I had devised what I thought a very clever scheme for carrying our provisions. I had a long, oval tin box made, with a door on both sides something like lunch boxes that you see, only it was made three feet long. I had carefully thought out exactly what we would need. We would not be compelled to open our mess box until we reached the fishing grounds, so I was satisfied we could put all our necessities in my tin box. I forgot to say that I had straps to the box so that I could carry it over my shoulders, for we were going horseback (that is if I could get a horse.) In my box, of which I was quite proud, I packed a bottle of whiskey, several pounds of powder, for we expected to shoot (that is if I could borrow a gun), a big piece of pork and plenty of bread. I succeeded in getting a horse after hunting around pretty lively. My Uncle Billy had a colt that he wasn't using, and he finally consented to loan her to me. She had a habit of shying at any little thing in the road. As I found out later, she would shy every time I didn't think she would, but would never notice anything likely to scare her."

The fate of this ingenious combination powder-horn,

whiskey flask and grub-box formed one of the amusing episodes of this trip and is led up to and described thus: "Wes. and I were up early. We had to be, for we had to find out how to make the rest of the trip (which was to be by water up the river) before anybody else should find out how we were going. Our pocketbooks were not well filled, but we were going to make the trip all the same. The only thing afloat was an old bateau about thirty feet long, which generally required a couple of men to an oar and a couple more to steer. Fortunately the river at that point was as smooth as a mill pond and there was hardly any current. We left our horses as guarantee and jumped aboard without saying a word. We were soon out of sight of the camp. It was hard work, but we were young and strong and were bound to get there. For several miles the Androscoggin River, you know, runs alongside Lake Umbagog, and at times the waters are separated by a very narrow strip of ground. We had been told that at one of these places it was an easy matter to get the boat from the river into the lake. We found the place, but how to get such a boat as we had into the lake was a serious matter. We went to work with a will and succeeded in dragging it perhaps a third of the way over, and then couldn't budge it an inch farther. We were compelled to push it back into the river. There was nothing else to do but either row to the outlet, several miles farther, or go back. The latter we were bound not to do. So we pushed ahead and at last had the satisfaction of riding on the lake. Much to our relief we found that there was a strong breeze blowing us in the very direction we had been told to go. It was about six or eight miles to the inlet. Three or four miles up this inlet was our fishing ground. We certainly were in luck, for the breeze blew us directly to the inlet. It was a mere chance to find it without following the bank of the lake all the way round. We started up the inlet, but soon came to a narrow almost impassible place. We both had to get into the water and push all we knew how to get over the bad places. I was pushing my prettiest and was leaning well forward when I heard a 'chug' in the water. The highly-prized metal loader had slipped out of my pocket and was on the bottom of the river in one of the deepest holes. I rolled up my sleeves and tried to reach it. No use. I couldn't bear to leave it and so stripped off my clothes, of which there was little need, for I was pretty well soaked at both ends, and went down after the lost loader. It required a good many trials, but at last, to my great joy, I recovered it. The boat-shoving process was renewed, and about dark we reached the lone stump which was the end of our journey.

"Tired! I never in my life was so played out. Hungry! We hadn't had a bite to eat since leaving the lumber camp early in the morning. We had been so busy trying to navigate our man-of-war and to reach our destination that day that we had forgotten all about food. There was our well-filled tin box, and our mouths watered at the thoughts of its contents, as we hurriedly built a fire and gathered some hemlock boughs for our beds. After everything was ready I opened the tin box, which was water-tight. We were in a happy frame of mind. We had worked hard and were now about to enjoy a comfortable meal at our ease, and were anticipating good sport the next day. We were joking

and laughing as I put my hand into the box to bring out something substantial. An exclamation of horror brought Wes. to my side. I drew out my hand. Instead of pulling out a nice loaf of bread my fingers were covered with a grimy looking paste. We broke open the box to see what was the matter. The bottle of whiskey had broken, and the whiskey had saturated the powder, and the two had soaked through the bread and pork. There was not a single thing in the box that we could put into our mouths, hungry as we were. The bottle had probably broken the first day, and since then the whiskey had been swashing back and forth in the powder and bread. We were disheartened as you may well imagine. When we started in the bateau I noticed a couple of little trout lying in the bottom, left there by somebody. They were withered and stiff, and there was no telling how long they had been there. 'Were they there yet?' I asked myself, as I hurried to the boat. I found them in the dark, and returning to the fire we partially cooked and ate them ravenously. Our appetites were only whetted, but there was no help for us. A happy thought struck me. By tying the pork to a piece of string and letting it hang in the river the powder and whiskey would be pretty well washed out by morning, and we could have something good for breakfast. This was done and we turned in, too hungry and too tired to sleep very well. In the morning I hurried to the river bank to get the pork while Wes. made the fire. I carefully pulled in the string, but there was nothing at the other end. Either the pork had been eaten by the fish or carried away by the current. We cursed our luck, and, after digging a few worms, tried to fish, but not a fish would bite. Utterly discouraged and disheartened, we jumped into our bateau and began our homeward voyage, only hoping that we would be able to get back to civilization and victuals. We were soon on the lake, but the breeze that brought us over so nicely the day previous was still blowing in the same direction. There was nothing to do but to row. We pulled hard for a while, but on looking toward the shore were dismayed to find that we had made no perceptible progress. Our efforts just about counterbalanced the wind. The outlet must be reached in some way or we would starve. Fortunately there was a piece of rope in the boat. We rowed ashore, and then one walked along the shore pulling the boat like a canal mule, while the other kept the boat off with an oar. We took turns at this work, and were nearly ready to drop when we reached the outlet. The prospect of getting back safely lent us renewed strength to row, and some time in the night we reached the lumber camp that we had left the morning previous."

LAKE VIEW HOUSE, Green Lake, Walworth County, Wis.—The four lakes furnish the best fishing for pickerel, pike, bass and large perch in the State. Fine brook trout fishing within six miles. Sportsman's Paradise. Plenty of live bait. Seven pickerel caught in front of the hotel in one and a half hours in fifty feet of water. Smallest fourteen and a quarter pounds; largest twenty-one pounds. Perch by the bushel. Forty miles west of Milwaukee, thirty-five from Racine via C. & M. & St. P. R. R., five miles from Troy Centre station, seven miles from Elkhorn. Orders for conveying guests from the stations will receive prompt attention, or livery can be procured at the stations at low rates for the hotel. Terms \$1 to \$1.50 per day during the balance of the season. Capt. A. W. Grippen, proprietor. G. J. Paige, manager, P. O. Adams, Walworth County, Wis.

Notes and Queries.

FOR THE AMERICAN ANGLER.

LUCKY DOG! POOR DEVIL!

BY GUY HERNE.

When you see a man at a tackle store
Marching serenely about the floor,
Spouting whole volumes of angling lore,
Looking at tackle cases,
Talking of clinker-built double-end boats,
Ordering waterproof rubber coats,
Sinkers and leaders, swivels and floats,
Sneek bends, Shaughnessys, Limericks, Sproats;
While on the salesmen's faces
A radiant, double-width, broad grin shines,
You can bet your boots that to him the lines
Are fallen in pleasant places.

You may be sure that good man shows
No fear of winter's frosts and snows.
He cares not whether the north wind blows,
Or the whooping "blizzard" comes or goes.
He, lucky individual, knows
A better theme to harp on.
He'll have no use for parlor stoves;
He's off for the land of orange groves,
Of sunlit bays and sheltered coves—
He's going to fish for tarpon.

But the man who rushes past the place
As if he were running a two mile race,
Without the ghost of a smile on his face
And giving never a squint or
A passing glance at the grand display
Of fishing parapherna-li-a
Which fills the window from day to day,
But turns his head the opposite way;
Be sure that that poor man must stay
At home to work all winter.

The striped bass fishing still continues good all "along the line." At Hell Gate fine scores have been made; from Rockaway we have fair reports and on the south side of Staten Island, notably at Gifford's, Eltingville and Princes' Bay, these fish are biting better and running larger in size than for many years. All this despite the prediction that sludge acid and other deleterious substances would destroy the fishing for striped bass in this section. That these have deteriorated the former grand fishing of our local waters cannot be denied, but, strange to say, an "off," or rather "on," year comes now and then, when the fish swarm our bays and estuaries, possible to be accounted for only on the sad but general principle that, like some humans, they seem to thrive and be happy under the most adverse conditions.

Mr. Francis Endicott, Angling Editor of *Outing*, writes us from Chadwick, Ocean Co., N. J.: "I have been here off and on for four months, and have had ample opportunities to observe the beauties of the present system of catching menhaden by means of steamers and purse-nets, and I trust THE ANGLER will continue to make strong protests against its continuance. It is ruinous to all food fishing on the coast as well as fishing for sport."

BROOK TROUT WITHOUT RED SPOTS.

We had a social call the other day from Mr. E. S. Osgood, of Boston, and in alluding to the fine sport he had in the large Diamond Pond, N. H., he said that he had caught in that water an occasional trout (*fontinalis*) with all the markings of the pure breed but without the red spots. These occasionals he said were very scarce, but three specimens falling to his rod during the last ten seasons. They average about $\frac{1}{2}$ lb. Mr. O. tells us that there are no lake trout in the Diamond ponds.

TOO MANY BASS.

Mr. A. C. Williams, Ohio Fish Commissioner, and J. J. Stranahan, both of Chagrin Falls, Ohio, caught over one hundred small-mouth black bass, Thursday, in Chautauqua Lake at this point. They were small, averaging about $1\frac{1}{2}$ lbs. in weight, the larger fish being off feed or where they did not find them. The bass season is ended, unless we get a warm spell of weather later. Fair takes of mascalonge are reported.

Lakewood, N. Y., Oct. 22.

TOM, JR.

THE BOSS YELLOW PIKE.

Fred A. Stranahan, of Cleveland, O., caught on hook and line last Friday, the largest yellow pike (erroneously called "salmon" in this section) that was ever taken from Le Boeuff Lake, according to the record kept by the veteran angler, Tim Judson, Esq. It weighed thirteen and a half pounds, against thirteen pounds, the largest ever caught before. Length, thirty-six inches; girth, nineteen and a half inches. Caught one big-mouth bass weighing about one pound. Used casting. Mr. Stranahan was accompanied by his brother, J. J. Stranahan, of Chagrin Falls, O., who had just landed a seven and a half pound mascalonge, and when proceeding up the east shore of the lake the latter remarked, "Here is the place where the large pike of bright yellow color took our bait last November, when the return of a bare hook caused some words not generally issued from the pulpit."

"That's so," replied Fred, "for there is the leaning tree by which we marked the place."

While he was speaking the fish above referred to took his lure. It was remarkably bright in its yellow color and both gentlemen are firm in the belief that it was the same fish which took their bait last year.

L. E. BUFF.

Waterford, Pa., October 21.

In an interesting article entitled "Strange Medicines," by Miss Cumming, which recently appeared in the *Nineteenth Century*, it is stated that whooping cough is cured—or rather, is supposed to be cured—in the neighborhood of Stamfordham, Northumberland, in the following manner: The head of a live trout is put into the patient's mouth, and the breath (!) of the trout, aided by a considerable stretch of the imagination, cures the cough.

The Angler's Score Book.—Contains blank forms (with stubs) for registry of fish caught; their species, size, weight, baits used, waters fished in, with conditions of wind, water and weather. Pocket size, paper cover, 10c.; in limp cloth, 25c. Address THE AMERICAN ANGLER, New York.

ANGLING NOTES FROM ABROAD.

Writing under the caption "Trout or Samlet" in the *English Land and Water*, Mr. Wm. F. Haigh, a gentleman claiming wide experience in the handling of both trout and samlet in Great Britain, and whose object is to establish simple, definite rules for differentiation, says:

I will take first the markings of the common trout as I have found them to exist in the Tay, Allan, Clyde, Tweed, Eek and many of their tributaries in Scotland; and in the Eden, Yore, Swale, Wharfe, Aire, Ribble, Dee, Wye, Towey, Cothi, Exe, Barle, Barle, Dart and many other streams in England and Wales.

In the trout the gill covers are spotted almost without regard to arrangement. The back, or dorsal fin is spotted from its junction with the back of the fish almost to the tips of the rays. In the autumn the edges of the first ray of dorsal fin, i. e., the ray nearest the head, and the tips of the first three or four rays behind it, are of a creamy white backed up with a streak of black. They begin to assume this peculiar marking about August, and about the end of September it is well defined, and lasts until well on into the spring. In the early part of May this peculiar marking gradually disappears and the fin, as the fish gains condition, assumes almost one solid neutral color. The anal fin in the trout is a feature by which any one may at once know whether he is right or wrong, for in this the color as in all the other fins, is usually orange tawny, and the first ray is creamy white and the second ray is black in the autumn and spring months, but as the fish gain in condition, and when at their best, the black from the inside ray almost disappears in mature fish in well-fed streams, but the white in the first ray remains always. The adipose or dead fin in the trout is at the root or junction with the back of a neutral or gray tint, and the tip of the fin is in the autumn or spring months of a solid or bloody crimson color; it is not a mere tint that one has to look for, it is there palpable at once to the naked eye. As the fish gains in condition and assumes that lovely primrose color we all love to see, the tip of the adipose fin gets brighter in color, and becomes almost a transparent scarlet, but this, again, is a real solid color; it is not a mere tinge. As to the spots distributed without regard to arrangement, both above and below the lateral line on the trout, these spots, both the black and red, are always surrounded with a halo which in samlets is conspicuous by its absence.

I will now pass on to the samlet, or salmon smolt. The gill cover has usually two spots of black situated one large one immediately behind the eye and one smaller one immediately behind that, the eyeball and these spots and the lateral line being in one continued line. The back, or dorsal fin, is of a neutral gray tint, and is slightly spotted with blurry spots, i. e., spots which are not well defined. These spots do not, as in the trout, extend the whole length of the fin, but are mostly confined to the lower portion or near the back of the fish, and seldom reach more than half the length of the fin. There is no white edge at all in the dorsal fin of the smolt either in the autumn or spring months. The adipose, or dead fin, of the smolt is of a neutral gray tint all through, there being no bloody crimson or scarlet edge to it at any period. I have seen a few at times which had a slight tinge of red on them, but it is always blurry and undefined; in fact, it wants really looking at to be assured it is there. The anal fin is usually of a light buff color, and the outer ray is not creamy white, as in the common trout. The general color of all the other fins is of a light buff. In the smolt the spots are not so well defined as in the trout, and the spots do not go below the lateral line, the bright red spots being usually on the line. There are generally nine distinct finger-marks or bars on each side of the smolt, and these marks are well defined, and, as I have before said, there is no halo round any of the spots on the smolt. We will now take what i

called the moor gad, which, I believe, is a hybrid between the salmon, or salmon trout, and the common or brown trout. The markings of this fish are very similar to the markings of the salmon smolt proper. In the late summer and autumn months it is a trifle larger than the salmon smolt. The dorsal fin is the same, only being rather more spotted, and the spots better defined, but still not so distinct as in the trout proper. The adipose fin is of the neutral gray color, and it has a tinge of red towards the end, but not defined; it looks more like minute particles of rust. The two black spots on the gill cover are the same as in the samlet. The bright red spots extend along the lateral line, and there are generally a few of the same bright red spots below the lateral line about the shoulder of the fish. The fins generally are of a yellow tint, not so dark as those of the trout and not so light as those of the salmon smolt. The anal fin has the creamy white outer ray, or first ray, and there is a dirty dark gray marking extending to the second and third ray of this fin immediately behind the creamy; but this is not so well defined as the distinct creamy white and black in the anal fin of the common trout. In my long experience I have come across some thousands of these both in England, Wales and Scotland, and have found them in April and May without the slightest appearance of assuming the coat of silver scales which the salmon smolt assumes prior to its departure to the sea. I have, in the autumn, opened some dozens of them, and always found milt in them. I have never yet come across one with ova in it. I will conclude my remarks with a general summary, which many anglers may find useful:

BROWN TROUT.

Color.—Black, light brown; sides, primrose.

Spots.—Black and red, well defined, surrounded by halo and distributed indiscriminately over the body on both sides lateral line.

Fins.—Tawny orange; anal fin, outer ray creamy white; inner or second ray, black.

SALMON SMOLT.

Color.—Back, steely blue; sides, very pale gold.

Spots.—Two distinct black spots on gill cover; red spots on lateral line. No spots below, and no halo round any spots.

Following are extracts of general interest from the English *Fishing Gazette*:

While my fisherman was angling on Monday on my water at Causewayhead, near Stirling, after having run three grilse, but only landed one and a number of sea-trout, his attention was aroused by a queer noise behind him. On looking round, to his surprise, he saw a monster of a salmon of fully 30 lbs. weight bracing the stream with its back fin out of the water, which was scarcely fifteen inches deep at this place. The man at once threw down his rod and gave chase. Fortunately, the salmon ran right up below the cobble which stopped it. It got stunned, and then tried to turn to get down. Seeing this, and not having his gaff at hand, Sandy flung himself down on the top of the fish, thinking to hold him by the tail. On grasping it he found it was too much for him, and he found he could not hold it all. He then thought to get his hands round the salmon to hold it fast; but it gave his leg such a slap with its ponderous tail that as fairly capsized him, and got its head down the stream. Sandy then scrambled up, wet all over, and faced the salmon again. But it struck his legs again, and completely knocked them from under him, and sent him floundering as before, then got into deep water, and off.

A lady who had been fishing last month in Norway tells this story. According to her statement, she had pulled out a fish with such a strong jerk that the line caught on a high overhanging branch, and swung the trout many feet high in the air. A gentleman was coming along the bank, and the lady sought his aid. "I beg your pardon, but I have just caught a trout, and it is up that tree," she said; "I don't know whether you could get it for me, but I should feel obliged if you could manage it." "I should be delighted if I could only climb the tree and reach it for you,"

said the gentleman, "but, unfortunately, I have a cork leg, and I fear I am useless." The next one that came along said he was very sorry, would have been delighted, but had sprained his arm that morning. The third, who was listening, was equally willing, but replied that he had broken his braces while climbing the opposite rock. The fourth replied most willingly, "I will go and fetch a ladder in Stockholm."

Of the octopus or cuttlefish frequenting our shores—*Octopus vulgaris* and *Sepia officinalis*—your correspondent, the Secretary of the Brighton Aquarium, may be glad to learn that the latter and more interesting of the two varieties is plentiful outside Falmouth Harbor, where a fortnight ago I was catching them freely. By way of a bait a pilchard or other small fish is securely fastened to an unweighted line and dropped over the side of the boat. Through the clear water the octopus may be seen like a shadow coming swiftly to the line, half a dozen or more at a time, and as the fish departs with its prey the arms or feelers become securely attached to the bait. Gently and slowly the line is hauled in till the head of the octopus is close to the surface, when it is impaled with an eel-spear. Catching the octopus or cuttle in this manner affords splendid sport. When nearing the surface it is apt to let go, and not allowing for refraction the tyro in striking will most likely spear the bait or miss his mark altogether, when the fish is off like a flash. We know that the octopus ejects, when attacked, a considerable quantity of black fluid, and unless held well under until the supply is exhausted this, as likely as not, is squirted over the fisherman. Following the black fluid come showers of water, so that it is difficult to escape a drenching. The octopus is highly valued as a bait for catching other fish, but, while beloved of the Spanish and other foreign seamen, it is not eaten in this country. I had one curried and found it most excellent—something like tender tripe.

"Speaking of salmon fishing," says "Old Rod":

1. "Crowding pools is a fatal mistake."
2. "Fish on very bright days with bright flies when the water is clear—with yellowish flies when it is very dark porter colored."
3. "Fish the 'Black Doctor' when the day is dull and the river not too swollen."
4. "Fish very large sizes of the Gordon and Gray Eagle as it is getting dark."
5. "Use larger flies on rough, cold days than on calm, genial days."
6. "Where fly cannot be worked to hang long enough on the fish use minnow—or prawn when the water is low if the weather is frosty."

TAKEN INTO CAMP.

The English *Fishing Gazette* has the following account of a sad violation of the game laws by a law official, which met with prompt, legitimate and well-deserved punishment:

Mr. Francis R. Crawshay, a justice of the peace, residing at Westfield, Bridgend, was charged by the police court of that town on Saturday last (before Mr. R. W. Llewellyn, Colonel Warlow and Mr. F. Coleridge Boles) with spearing salmon in the Ewenny River. The court was crowded, and considerable interest was manifested in the proceedings. Mr. Crawshay did not answer the summons personally, but was represented by Mr. W. Richard Randall.

David Evans, water-bailiff, said that on the 14th of July he was near Tymaen, Ogmore. He saw Mr. Crawshay take a spear out of his pocket and screw it into the thick end of his fishing rod. It was a three-pronged spear, and was barbed. Defendant speared a sewin, which he put in his basket. Witness, who was only four or five yards from

him, told him he was doing what was wrong, and then went away, allowing defendant to retain possession of the spear. Mrs. Crawshaw was present at the time. Mr. Stubbs, game-keeper, saw what took place, and was present to give evidence.

By the Bench: The water was low in the river at the time. There was only about a foot and a half of water where the fish was speared. Witness saw the fish actually on the spear as defendant took it out of the water. It was not a day when fish could be caught with a fly; it was too bright. The spear was still on the rod when witness spoke to defendant.

Colonel Warlow: That is the only occasion you have seen Mr. Crawshaw do such a thing?

Witness (hesitatingly, and with his hat before his face): Yes, but—

Mr. Randall objected to the question, as Mr. Crawshaw was only charged with spearing on one particular day.

Colonel Warlow did not press the question.

Mr. Randall said he might save time if he stated at once that he was authorized to admit the offence on behalf of Mr. Crawshaw, who regretted it extremely. The amount of publicity which had been already given to the case was a considerable punishment, and he (Mr. Randall) could not do more than trust to the leniency of the Bench.

The Bench fined defendant the full penalty—£5 and costs. (A voice in court: "Not half enough, sir!" and laughter.)

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

EMERGENCY HINTS IN FISH CULTURE.

In fish culture as well as everything else there is, every now and then, little emergencies arising which require immediate and prompt action to avert disasters, and in this article I shall give the readers of *THE ANGLER* a few of the emergencies which have arisen in my experience and the remedies which I have, or would have, applied.

Perhaps one of the most interesting incidents which I can now recall happened on Otsego Lake some fifteen years or more ago. We were taking the spawn of the Otsego bass on the ice. The weather was extremely cold and in spite of all we could do a thin coating of ice would form almost immediately on the inside of the pan in which we were taking the spawn, which caused the death of all the eggs with which it came in contact. The thought came to me at once to place one pan inside another filled with water. This idea was acted upon at once and found to work perfectly and no more trouble was experienced on that score.

I read in a recent fish report an account of where a sudden roil came up in the brook which was used as the water supply for the hatchery. The roil was so great as to endanger the life of the spawn and therefore the supply from that source was shut off entirely and water carried continuously from another source to feed the troughs until the water became pure again. In such a case as that my idea would be to remove the eggs from the troughs as quickly as possible. If they are on hatching trays lift them bodily from the troughs and set them on top, and if they were in other hatching apparatus than trays, nail together some

wooden frames and stretch over them any kind of white cloth—Canton flannel is probably the best—and take the spawn out carefully with small flat scoop nets such as should be in every hatchery and lay them on the trays. They should then be kept in a temperate atmosphere, not too warm nor cold enough to freeze. If possible the temperature should be about that of the water from which they were removed. They should then be sprinkled carefully with a fine nozzled flower sprinkler once each day, and, provided they are not too near the hatching point, they will keep in good condition for several days. This would be the remedy to apply in case of a dam breaking away or in any case where the water supply was temporarily cut off. The eggs can be laid on the trays several layers deep, but if left for any length of time the thinner the layers are, down to one egg in depth, the better. On no account should they be allowed to remain in the water for any length of time unless the water is constantly changing.

When traveling with young fish old enough to swim up from the bottom, in changing the water or putting in broken ice considerable sediment will accumulate in the cans, which is injurious to the fish and quite difficult to get rid of, as the small fish cannot be taken out and put into a clean can as could large fish in such an emergency. To meet this case I have on several occasions taken the can, and by jostling it about so as to give the water a rotary motion caused the greater part of the sediment to collect in the center of the can at the bottom, where it can be easily removed with a rubber tube, having previously fastened the end of the tube which is to be inserted in the can to a stick long enough so that it can be readily put into the can at the right spot. When the tube is inserted in the can the thumb should be placed firmly over the opening at the end which is to remain outside the can so as to make it air tight; the stick with the tube lashed to it should then be thrust to the bottom of the can where the sediment has gathered; then quickly remove the thumb and put it right back again securely over the aperture and withdraw the tube from the can. When it is outside hold it over a pail, remove the thumb and the sediment will drop in. If any of the fish should chance to get drawn in they can be easily captured and returned.

If in traveling with fish they are found at any time to be suffering for a change of water and none is at hand, dip the water from the can and pour it back constantly until they are relieved.

SETH GREEN.

SUNAPEE LAKE TROUT ON THEIR SPAWNING BEDS.

The *Oquassa* trout of Sunapee Lake have just come onto their spawning beds in full force. They are twenty days behind time this year, and all the *Salmonidae* are late in their spawning operations. Large numbers of *Oquassa*, 6 to 7-lb. fish, are daily taken from the beds and confined in the State tanks by the Commissioners until their spawn is secured, so that an opportunity is now afforded to all persons who are interested in the question of origin to inspect this strange fish, both on the spawning beds and in closer quarters in the tanks in Pike Brook. A stay at the lake at this season, when the mountains are in all the glory of their fall mantling and the air is frosty and invigorating, cannot but be fraught with both pleasure and profit. Comfortable accommodations, for ladies as well as gentlemen, at most reasonable rates, can be had within a short walk of the hatchery, at B. C. Davis' "Willows," whence a visit to Camp Oquassa and the Mile Rock spawning-bed never loses its fascinations.

J. D. Q.

SALMON PROPAGATION IN OREGON.

The Portland (Oregon) *Mercury*, in the course of a review of the fish industries in that State, says:

The Columbia salmon fisheries have long since begun to show signs of depletion. In 1869 a man located on the Columbia River and caught salmon, of which he pickled only the bellies, leaving the heads and backs of the fish to rot upon the beach amid an unutterable stench. At that time William Hume had, at Eagle Cliff, the only cannery in operation on the river. In 1870 canneries began to increase in number till now they are the chief industry of the river. In 1877 it became evident that the run of salmon was rapidly decreasing while new canneries were being built on every available wharf site. In this dilemma it was proposed to start a hatchery similar to the one erected on the McCloud River in California. The great difficulty experienced in this matter was in getting aid from the State and, although the sum appropriated was wholly insufficient for the purpose, yet it was helped out by contributions from the owners of canneries, Mr. James W. Cook, of Clifton, being the most liberal of the donors. For two seasons the hatching was kept in successful operation, but the third winter saw a warm rain descend upon a thousand avalanches of snow nestled in the rugged Clackamas hills. The pent up river rose to a height hitherto unknown and the hatchery, like the tiny salmon that had come to life within its walls, was carried away with unresisting helplessness to the far-off sea. The Oregon Legislature wanted to see something like results before it would appropriate any more money for experiments; but the run of 1883 was something incredible, the catch per boat being nearly double that of the previous year. Unfortunately this vast product fell flat upon a stagnated market. Salmon brought \$16 per case of forty-eight cans in 1870, but had dropped to \$5.10 in 1883. True, there had been economy in machines for stuffing and soldering the cans, in that interval, which had materially reduced their labor account, but not enough to offset this decline in prices. In 1885 the canneries determined to raise prices by decreasing the product and the consequence has been an increase in prices to fifty-six shillings in England, which is about equal to \$12.55 per case. At such rates as these there is ample profit in canneries, but alas! there were no fish this year as compared with former years. The necessity of a State hatchery, therefore, grows more apparent from year to year, especially as a new and dangerous competitor had appeared in the newly acquired territory of Alaska, where fish could be laid down at the cannery for ten cents each, as against seventy-five cents in Astoria. The last legislature, therefore, created a Board of Fish Commissioners, whose business it was to protect the fisheries of the Columbia and its tributaries from depredations during the breeding season. They decided at once to rebuild the old hatchery on the Clackamas, at the mouth of Clear Creek.

There are six parallel lines of troughs, all tarred within, through which are interspersed lines of wire screen cages, into which are placed the eggs while they are hot from the belly of the female fish. The operator then takes the male fish in his right hand and, holding him firmly by the gills, begins moving his left hand over the breast of the fish for

a few seconds. He then grasps the body of the fish gently and, moving his left hand downwards, presses the milt into the pan in which the eggs are contained. He then turns the fish back into the tank until he needs him again for a like service. It sometimes takes a whole day to relieve a male fish of all his milt and he is kept in waiting till a female fish can be found with ripe spawn. The enemies of the salmon are thus debarred from access to him during his embryotic condition. Whatever injury they do to him must be done after he is able to swim. The worst enemies he has in his egg form are the suckers and redfins, which burrow in the sands at the foot of the riffles where the female is wont to deposit her spawn and where the male, after impregnating it, covers it up with a couple of slaps with his broad tail. These eggs are readily found by the crawfish also. But in this system of artificial propagation not one egg in a hundred goes to waste, as the young samlets are not turned loose to shift for themselves until they are about two inches long. When they reach the age of two years they go out to sea and come back again at four years and every year thereafter until they die of old age or from the many bruises they receive while working up over the rapids and gravel bars. From a point of about a hundred yards below the county bridge to a place as far above the hatchery there is a deep pool, above which the salmon are debarred all progress by a heavy wire screen through which the smaller fish can run, while the larger ones are detained for breeding purposes.

GOOD WORK ON THE ST. LAWRENCE.

We cull from the *Post-Express*, of Rochester, N. Y.

Game Protector Schwartz returned last night from an official visit to the St. Lawrence region. It is outside of his district, but he received orders from Fish Commissioner Sherman, of Utica, to report at Oswego for duty, as the Sportsmen's Club of that city had made application for his services. The latter club has a preserve some twelve miles from Pulaski and employs a game warden at its own expense. But neither he nor the State game protector of the district could do anything to stop the illegal fishing in their vicinity. The latter are mostly half-breeds and a lawless lot. Mr. Schwartz guessed that the mission would not prove a pleasant one and hence telegraphed for the assistance of Game Protector Sheridan, of Penn Yan, who is one of the pluckiest officers ever engaged in the work of game preservation. A drive of twelve miles from Pulaski brought the two officers to Little Sandy Pond, a lake eight miles long and four miles wide, on the edge of the Adirondack region. The private game warden, a man named Rose, was to pilot the officers, but he became frightened when shown the orders from the club, and decamped at the first opportunity. The game protectors found a better assistant in a resident of the locality named Best, who showed that he neither loved nor feared the half-breeds. Armed with his shotgun he shouted defiance to the half-breeds, who carried Winchester in addition to revolvers and bowie-knives. Twelve trap-nets with long leaders were found by the party and destroyed in the water, as they were too large to be taken into the boat. The value of the nets was estimated by residents of the locality at \$1,000. The half-breeds repeatedly covered the party with their rifles, but did not fire. Mr. Schwartz says the success of the raid was due in no small measure to the help of this man Best, and to the fearless conduct of Game Protector Sheridan.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

HIGH WATER TABLE OF TIDES FOR THE NORTH ATLANTIC COAST.

[Collated from the United States Coast and Geodetic Survey Tables.]

OCTOBER.

October.	Eastport, Me.	Portland, Me.	Boston, Mass.	Newport, R. I.	New London, Conn.	Sandy Hook, N. Y.	Philadelphia, Pa.	Baltimore, Md.	Washington, D. C.	Old Point Comfort, Va.	Charleston, S. C.	Savannah, Ga.	Fernandina, Fla.	Key West, Fla.
1	10.49	11.03	11.20	7.28	8.35	7.10	0.44	6.09	7.18	8.08	6.53	7.40	6.58	8.33
2	11.20	11.35	11.51	8.03	9.13	7.48	1.21	6.45	8.02	8.42	7.28	8.17	7.35	9.08
3	11.49	.....	0.12	8.36	9.49	8.23	1.58	7.20	8.38	9.12	8.03	8.53	8.11	9.40
4	0.13	0.27	0.46	9.07	10.28	8.57	2.34	7.54	9.13	9.45	8.36	9.27	8.47	10.09
5	0.45	1.00	1.16	9.40	11.06	9.28	3.12	8.29	9.39	10.18	9.11	10.03	9.25	10.41
6	1.18	1.82	1.48	10.10	11.52	9.59	3.52	9.07	10.17	10.55	9.49	10.40	10.06	11.20
7	1.55	2.08	2.23	10.54	.....	10.34	4.34	9.49	10.59	11.38	10.31	11.22	10.51	12.06
8	2.37	2.45	3.08	11.39	0.30	11.15	5.18	10.36	11.45	0.01	11.18	.....	11.42	.....
9	3.24	3.37	3.52	0.07	1.53	.....	6.09	11.29	0.12	0.54	.....	0.24	0.12	0.43
10	4.18	4.30	4.45	1.09	3.08	0.44	7.08	0.00	1.10	1.57	0.37	1.24	1.09	1.45
11	5.17	5.30	5.45	2.17	4.12	1.44	8.14	1.03	2.13	3.03	1.43	2.30	2.08	3.03
12	6.29	6.32	6.48	3.28	5.11	2.52	9.21	2.06	3.21	4.07	2.49	3.37	3.06	4.22
13	7.23	7.32	7.50	4.25	6.03	3.57	10.25	3.11	4.28	5.04	3.51	4.38	4.05	5.32
14	8.18	8.32	8.50	5.21	6.53	4.58	11.24	4.14	5.29	5.58	4.50	5.58	5.00	6.31
15	9.12	9.25	9.44	6.18	7.41	5.56	.....	5.12	6.23	6.51	5.44	6.53	6.52	7.22
16	10.03	10.16	10.35	7.08	8.29	6.50	0.40	6.06	7.14	7.40	6.35	7.25	6.43	8.12
17	10.52	11.05	11.23	7.52	9.18	7.42	1.29	6.53	8.00	8.28	7.24	8.15	7.33	8.58
18	11.40	11.54	.....	8.39	10.08	8.32	2.18	7.40	8.48	9.15	8.12	9.01	8.25	9.40
19	0.11	0.24	0.43	9.25	10.56	9.22	3.10	8.27	9.37	10.04	9.01	9.53	9.15	10.28
20	1.03	1.16	1.35	10.13	11.52	10.11	4.00	9.15	10.25	10.54	9.51	10.44	10.11	11.20
21	1.56	2.10	2.30	11.01	10.10	11.00	4.50	10.07	11.16	11.48	10.44	11.37	11.06	.....
22	2.55	3.10	3.29	11.52	1.08	11.52	5.44	11.03	.....	0.26	11.39	.....	.....	0.08
23	3.58	4.13	4.33	0.36	2.09	0.38	6.41	.....	0.42	1.29	0.12	0.69	0.46	1.07
24	5.07	5.22	5.40	1.41	3.22	1.34	7.40	0.32	1.43	2.37	1.15	2.03	1.46	2.18
25	6.15	6.31	6.48	2.49	4.22	2.34	8.39	1.31	2.42	3.42	2.18	3.06	2.42	3.38
26	7.19	7.34	7.50	3.55	5.15	3.34	9.34	2.27	3.41	4.40	3.17	4.05	3.35	4.52
27	8.14	8.30	8.43	4.50	6.03	4.29	10.25	3.16	4.35	5.30	4.12	4.99	4.22	5.50
28	9.01	9.16	9.30	5.36	6.45	5.19	11.11	4.05	5.23	6.16	5.01	5.47	5.05	6.47
29	9.41	9.55	10.11	6.18	7.26	6.04	11.52	4.52	6.05	6.51	5.43	6.33	5.44	7.29
30	10.15	10.30	10.45	6.55	8.03	6.43	0.11	5.35	6.45	7.32	6.22	7.11	6.20	8.08
31	10.45	11.00	11.12	7.28	8.38	7.20	0.48	6.14	7.22	8.06	6.57	7.47	6.34	8.44

The above table gives the morning tides which are calculated on local time. To reduce to standard time subtract 32 minutes from Eastport, 19 m. from Portland, 16 m. from Boston, 15 m. from Newport, 12 m. from New London, 4 m. from Sandy Hook and 1 m. from Philadelphia. Add 6 m. to Baltimore, 8 m. to Washington, 5 m. to Old Point Comfort, 20 m. to Charleston, 26 m. to Savannah, 34 m. to Fernandina and 33 m. to Key West time. Add 23 min. to Sandy Hook time for Barnegat Inlet tide, or three minutes for Atlantic City tide.

(Reached via Staten Island Rapid Transit Co.—R. W. Pollock, Gen. Traffic Manager, New York.)

BEACH HOUSE, PRINCE'S BAY, OCT. 18.—Having fished in these waters for the last thirty years at least two months every year, I am glad to have some news for your paper.

We are taking a great many striped bass trolling with sand worms. Never having seen any one fishing in that way before, I commenced it last fall in the last part of November. I caught several bass of some 5 and 6 lbs. weight. I believe some large bass could be caught in the spring. I took one of 5½ lbs. and a good many small ones. For the last three weeks I have fished a number of times with good success in company with ex-Alderman Terence Kiernan. We caught sixteen one afternoon and twelve the next day, averaging about four hours' fishing. Last Friday and Saturday, eleven averaging 3 lbs. each; one, 6 lbs. 10 ozs.; weighed at Mr. Beasley's. Altogether I have taken eighty-seven fish and with a light trout rod it was splendid sport. Along the shore fish have been taken weighing 10½, and 11½ lbs. and I hear of one 18-pounder, all trolling. I hope to take a large one before this week is past, as I like the tides when they are not running full, and for some days they have been very high.

Weakfishing has been and is good. Many fish are taken. From 25 to as high as 143 have come in within a week to a boat. I have taken quite a number of large kingfish, but cannot depend on them for a success.

I give myself the credit of introducing trolling for bass on our Staten Island southern shores and hope many of

my friends will enjoy it. Last Saturday I saw eight boats trolling and I believe they all caught good strings. I have a large number of gentlemen who patronize me who will certify to my statements.

Mr. Terence Kiernan has spent three days a week with me since June and caught, I think, more in weight and numbers than any one that has been down to our bay, averaging from eighty to ninety fish a day until the last week.

IRAAO SMITH.

ON THE EMBARRAS RIVER.

William Neece, who resides three and a half miles east southeast of this city, is the champion angler this fall. On the 2d inst. he was at the Embarras River for a day's angling. He caught fifteen bass, two catfish and four new lights. The largest channel cat weighed four pounds, the second largest two pounds. The largest yellow bass weighed two pounds. The rest of the bass weighed from about three-quarters to one and a quarter pounds. The day was warm and partly cloudy, with a strong wind from the south. Highest temperature, 82°; lowest, 50°; daily mean, 67°. The water very low and clear. Baits used were minnows.

On the 16th inst. three merchants, two clerks and one laboring man, viz.: Chas. E. Bishop, Otto Weiss, Joe Landes, Charles McCrory, Frederick Roderus and Henry Gramesby, were five miles southeast of here for a day's angling (in the Embarras River). They caught fifty-two fish—forty bass, yellow and white; five channel catfish and seven sunfish. The largest catfish weighed one and a half pounds and the largest bass (yellow) weighed about one and a half pounds. Baits used, minnows. Otto Weiss' fishing rod is split bamboo and cost \$15. The day was warm and partly cloudy, with a fresh breeze from the south. Highest temperature, 74°; lowest, 46°; mean, 60°.

Shanon Hart caught four bass, four new lights and a few smaller fish on the 16th inst. Largest yellow bass, two and a half pounds.

J. B. D.

Charleston, Ill., October 20.

FISHING AT COLUMBIA RESERVOIR.

During the past week (from the 17th to 24th of October) a very remarkable change has come over the fishing at this place.

During most of the season the catches were not satisfactorily large, but now they are almost phenomenal. H. Pierce, Esq., of Montgomery, Alabama, who has spent the summer in Bristol in this State, has for ten consecutive seasons visited the reservoir here with satisfactory success. During a two days' fishing he caught four bass whose united weight was twelve pounds, one pickerel that lacked only two ounces of four pounds and 250 perch of fair size.

During this time Wm. Foote, a veteran fisherman, also caught a fine lot of perch and some small bass.

E. H. Harris spent half a day in trolling and was made happy by a catch of twenty-four pickerel of almost uniform size and about one pound weight each.

On the whole the experience of the past week has been a surprise to all and one that cannot be accounted for. Ordinarily at so late a season few, if any, fish could be caught. This remarkable success goes far to remove from the minds of some the idea that there were not as many fish as formerly.

Live bait was used by Mr. Pierce, but Mr. Harris used the bellies of small fish.

WM. H. YEOMANS.

Columbia, Conn.

POISONOUS FISH.

Dr. Oscar Tybring, in a careful paper on the subject of poisonous fish printed in a Bulletin of the United States Fish Commission, has the following:

It is well known that in many, especially in the tropics, there is a risk of eating fish which are injurious to health and which may even endanger life. Some fish seem to be poisonous at certain seasons of the year, while at others they are perfectly harmless. The spawning season seems to be the one in which they are particularly dangerous. Some fish are poisonous when caught in certain localities, while in others they may be eaten without any bad result. In most fish of this kind it is not the meat which is poisonous, but the entrails, especially the liver, the roe and the milt; sometimes the skin also is poisonous; and finally there are some fish whose meat is poisonous. Certain kinds furnish a perfectly harmless food if eaten as soon as they are taken out of the water, but if they are allowed to lie only an hour their flesh spoils.

One cannot judge by the appearance of the fish, for those that look finest and most appetizing are frequently the ones that are poisonous; while there are fish which have a revolting appearance, but which are harmless and good to eat.

In the East Indian and Australian waters the poisonous *Meletta* is found in large numbers. It greatly resembles a herring, to which family it belongs; it is five or six inches long, with a sharp, serrated belly, silvery scales and a bluish green back. Foussagrives states as its principal characteristic that it has no teeth, with the exception of a few very small ones on the tongue. This fish is found especially near the Seychelles and near New Caledonia. It is always poisonous and when eaten causes vomiting, violent diarrhoea, chills, a languid feeling and invariable pain and cramps, particularly in the legs; the symptoms, therefore, resemble those of cholera. It is often caught with another kind of *Meletta* which is not strictly poisonous, and which may be distinguished from the poisonous one by having larger scales. The poisonous *Meletta* has a black snout and a black spot on the dorsal fin. Otherwise these two kinds of fish cannot easily be distinguished one from the other. The second kind of *Meletta*, or the tropical herring (*Meletta thrissa*), is quite common on the coast of Brazil, in the West Indies and on the east coast of North America as far north as New York. It is considered dangerous, especially during the spawning season, the roe being its most poisonous part. From San Domingo cases have been reported where people have died from eating this fish. Hornemann in his medical work says that it is advisable to forbid the crews to eat any fish of the sardine kind (to which family the *Melettas* belong) in the tropics, especially during the spawning season, an advice which should be heeded, as mistakes may easily have fatal consequences.

From Japan we also have reports of poisoning by fish of a similar kind, the *Engraulis japonica*. It is found in large numbers, especially near Nagasaki, and is most dangerous during the time from July to September. In the same locality the *Enorantis japonica* is also found, which Foussagrives supposes to be the same fish as *Meletta thrissa*.

In the Brazilian and West Indian waters the *Caranx falax* (belonging to the mackerel family) is found. In Havana it is called "juel." It may be distinguished from the *Caranx carangus*, which is common throughout the entire tropical portion of the Atlantic, by the following marks: The harmless *Caranx* has a black spot on the gill-covers, which is wanting in the poisonous one. The poisonous *Caranx* also grows larger, sometimes weighing as much as twenty-five pounds, while the other rarely weighs more than two pounds, for which reason it is prohibited in Havana to sell *Caranx* weighing more than two pounds. The poisonous *Caranx* has scales on the neck, while the other has a bare neck. The poisonous one has invariably twenty-two rays in the second dorsal fin. It is also said that this fish is poisonous only when worms are found in its head; this should, if true, also be considered as a distinguishing mark.

Another kind of mackerel (*Caranx plumieri*) is also found in the West Indies, and is poisonous only in certain localities and at certain times; but then it is poisonous to a high degree. In the French West India Islands it is called "coulirou," and the Spaniards call it "chicaro." Hornemann states that in Havana it is not considered poisonous, but in Guadeloupe, where it is found in large quantities and where it has a very fine flavor, it sometimes happens that specimens of this fish are caught which are so poisonous that they are used to poison rats. It is said that these poisonous specimens may be distinguished by the circumstance that their bones are red, which is not the case with the harmless ones. It very much resembles the common mackerel, but is shorter and thicker from belly to back.

The bonito also (*Scomber pelamys*), which belongs to the same family and which is frequently very delicious as an article of food, under certain circumstances may be, if not poisonous, at any rate unwholesome and hurtful. There have been instances where the eating of this fish has caused colic and diarrhoea, and an itch breaking out on the skin. In the Antilles the *Tynnus vulgaris* is also considered dangerous, and in the Mediterranean it is sometimes, but rarely, said to cause indigestion. The same is said also of *Cybium cavalla*.

In the West Indies the *Sphyræna becuna* is found. It has a long stretched body (about two feet long) and a pointed head resembling that of the pike, and sharp, lancet-shaped teeth, some of the front ones, both in the upper and lower jaws, being larger than the others. It has two dorsal fins, with a large space between them. Its meat is usually wholesome; but sometimes, when it is presumed to have eaten poisonous fish, it becomes very hurtful. It is said that the fact of its being poisonous is shown by the teeth being black at the roots.

The *Sphyræna barracuda* is much larger than the *Sphyræna becuna* and sometimes becomes fifteen feet long. It is found on the coast of Brazil, in the Antilles, and the Bahamas, and is likewise poisonous at certain times. This is the case when the teeth are black, the liver tastes bitter and a black juice oozes out of the flesh when it is cut. In the port of Rio Janeiro several men belonging to a French frigate were dangerously poisoned in 1862 by eating a fish which the natives called caçao and which Royde Mericourt supposes to have been the *Sphyræna barracuda*. This fish also becomes dangerous by attacking people while bathing in the sea, and inflicting ugly wounds with its sharp teeth.

[The above article is republished by request from our issue of December 4, 1886.—Ed.]

TEXT PAPERS FOR ANGLERS.

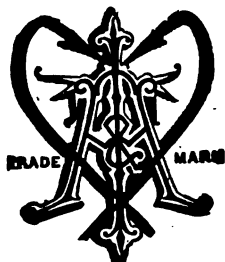
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To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

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 The Red Grouper. 17, "
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- The Ladyfish—Skipjack—Bonefish. December 1, 1883.
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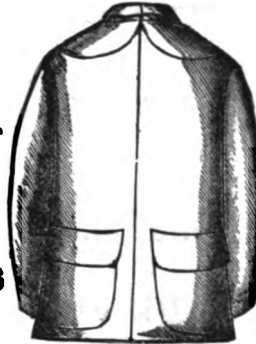
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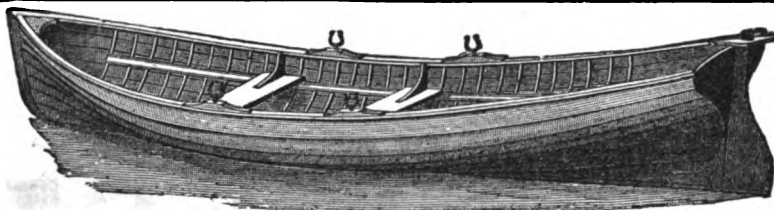
GLASS FALLS, N. Y., June 15, 1894.

Mr. A. S. HINDS, Portland, Me.

DEAR SIR—I have not sooner acknowledged the receipt of a box of "Black-Fly Cream," as I desired first to test it; this I have now done on two fishing trips, where I found the Mosquitoes, Black Flies, Punkies and Mooses or Deer Flies in great abundance. Although all these pests swarmed about me, I found the OZARKA PERSOR PERSUASIVE against their bites when applied to face, hands, ears and neck. For many years I have sought, for the insect repellent, and have tried all manner of compounds, but yours is the most thorough, at the same time cleanly and not disagreeable.

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The American Angler.

A Weekly Journal of Fish, Fishing, & Fish Culture.

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NEW YORK—CHICAGO, NOVEMBER 5, 1887.

VOLUME XII, NUMBER 19.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—182 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Boulevard St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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Very many striped bass have been caught this season from the ferry piers and others at the lower extremity of the city. Dozens of men and boys can be seen almost any fine day perched dangerously near the dropping off places of the bulkheads eagerly watching floats and industriously jerking at nibbles. We wonder how many of these anglers know that it is "agin the law" to kill a striped bass less than one-half pound in weight or less than eight inches in length and that they are liable to fine and punishment for each violation of this enactment?

A dispatch from Ottawa, Canada, says: "The order in council prohibiting Sunday fishing has been modified so as to apply only to non-tidal waters frequented by salmon. The object of the new order is to make the regulations respecting salmon fishing more strict."

CLUBS AND ANGLING WATERS.

The poetry of anglingsings of freedom. The angler is free from care, the brook flows freely on its course, the free wind blows and the free bird carols in the forest. There is much in this that is attractive and strongly appeals to the remnant of the savage that lurks in the heart of the most civilized man. It is no doubt this sentiment which is at the bottom of much of the opposition stream protection has met with in the more settled country districts. Men have felt galled to see legal notices prohibiting them from taking fish from streams where their fathers freely fished before them and where they had as freely angled away the Saturday afternoons of their boyhood.

This is a natural and by no means ignoble sentiment, but a little consideration will show any man that it is no more practically possible to leave all fishing waters free to all than it is to do away with farm fences and turn the crop fields of the country back into meadow-grazing lands free for all. The money value of good fishing waters has so increased as to make it necessary to lock the doors on the treasure. It may do away with much of the poetry of angling, but it is a hard fact and will continue to become yearly a harder and harder fact that the angler who cannot afford both the time and the money to make long trips to distant points in search of his sport must either own or lease some well stocked and well preserved stream near by or else belong to some one of the many clubs that have acquired and are stocking and protecting waters on a large scale. These clubs are constantly increasing in number and membership and until the angler begins to look about for himself he does not realize how few really good waters within easy reach of this city are strictly free waters. On many streams that are posted and more or less guarded by riparian owners any well-spoken angler who knows how to talk pleasantly and sensibly to a plain farmer can easily get permission to fish for a day or two, but there is no dependence to be placed on this, for next year this very stream upon which you have surely counted may have been leased to a club and the farmer's house turned into an anglers' resort. We have nothing whatever to say for or against this system. We only point out a known fact and draw the plain conclusion that every angler who cares to provide for his enjoyment in years to come had better lose no time in securing some good angling privilege somewhere.

The leaving time from New York of the Fall River Line steamers Pilgrim and Bristol has been changed from 5 to 4.30 P. M.

TARPON TIME.

Some time ago a correspondent of the *Home Journal*, in a letter from Jacksonville, Florida, wrote as follows:

At flood tide the waters of the St. John's in this vicinity—near the mouth—are constantly churned by the "silver king" or tarpon, but as our party were not rigged for them we did not get any. Several fine specimens of this beautiful fish have been caught here lately, but only one with a hand line. Some day we hope to hear of a rig that will secure one of these "kings" in a gentlemanly manner, as no true lover of the sport cares to fish with a hand line. The trouble now in fishing for these fellows with pole and reel is that when hooked they go off at such a terrific speed, and swerve from right to left through the water, that they break any line a reel can hold by the mere resistance of the water.

As this is the season when the tarpon fishers are preparing their tackle and making their arrangements for forthcoming contests with that and other noble fish of Southern waters (bar Yellow Jack), it may be well to call attention to the fact that angling for tarpon with rod and reel is already a solved problem. If our readers will refer to THE AMERICAN ANGLER, Vol. VII., 1885, they will find descriptions of methods and tackle used in tarpon killing in full detail. The difficulties suggested in the above extract had all been met and overcome long before the correspondent wrote his letter, but of this he was doubtless ignorant.

MAGAZINE NOTES.

Outing for November is another exceptionally good number of that excellent publication. The careful history of the Staten Island Cricket and Base Ball Club, by Capt. Charles E. Clay, will be read with interest by thousands who have shared the hospitality and mayhaps contributed to the success of that thriving organization. The second of the "Big Game Hunting in the Wild West" series, by General Randolph B. Marcy, is a characteristic rough sketch of frontier army life of years ago, and there is much other good and acceptable matter.

"MY ROD AND I."

(From the English "Fishing Gazette.")

I.

My rod and I are ancient friends,
Long years we've held together,
Through Life's bewild'ring odds and ends,
And most in cloudy weather.
And angler-like, both keen and true,
In all good service ready,
In blust'ring storm or cloudless blue
Our friendship's firm and steady.

II.

And oft my faithful rod and I
Have tramped with silk and feather,
When merry birds sang in the sky,
By woodland and by heather.
And when we part, as part we must,
And lifelong friendship sever,
Old Time may turn me into dust—
Till then, we're friends forever.

T. E. PRATT.

We call attention to the advertisement in another column of the Syracuse (N. Y.) Fish Rod Co., which desires to secure an agent in each large city, to whom they will give the exclusive sale of their \$8.00 split bamboo rod and patent Waterproof Rod Case.

CRUISE OF THE WHITE HEIFER.

BY D. D. BANTA.

IV.

Nay, if you come to that, sir, have not the wisest of men of all ages, not excepting Solomon himself, have they not had their hobby horses?
Tristram Shandy.

It would be hard to find just such another set of men as composed the crew of the White Heifer. Every one was the owner of some sort of a hobby, which on taking up our quarters at the lighthouse he immediately mounted and thence on rode with might and main till the close of our stay on Isle Royale.

Doctor Jo bloomed out into a mild form of *green stone* crankism. Isle Royale is famous for being the home of the *chlorastrolite*, a stone of such beauty and rarity as to be rated among the "precious." It was originally brought to the knowledge of the scientific world from here and it is a *rara avis* among stones indeed, for it has not thus far been found in any other quarter of the globe so far as I know. At least Doctor Jo, who is or came to be a sort of green stone authority, says so. It is a finely radiated stellated pebble of a light bluish green, with a pearly luster and "slightly chatoyant on the rounded sides." This last phrase I got from Doctor Jo himself and I have no doubt of its correctness.

Not one of us but took to occasional scratching amid the shingle on the beaches in search of the diminutive green pebbles, but it was for Doctor Jo to scratch, scratch, scratch all his days away. He must have carried a gallon or more of the spoil in old pockets, socks, tin cans and the like, back to the mainland with him. Now and then, I am told, a stone of such size and purity is found that it commands a round price, but few were picked up by any of us larger than a grain of corn. Doctor Jo found the largest, a flat-tish stone as big around as a silver quarter, but it did not appear to be a perfect gem. In his eyes, however, it was of great value.

The Captain's was a boat hobby. As if his experience in sailing the White Heifer from Marquette up to the Portage towns was not enough to last him half a life time, he must needs put in his time while at Rock Harbor thinking and talking *boat*. The wrecking crew was made up mainly of sailors and the Captain had no trouble in finding specialists in his line who could swap knowledge with him by the hour. Much of his time was spent with the wreckers on the hull of the *Algolah*, where, indeed, we all went on more than one occasion, and were specially entertained by the diver.

One day while at the wreck Captain Montgomery recited to us the scenes of the shipwreck as he had gleaned them from survivors. The steamer, it seemed, having missed her way in a blinding November snow storm, ran head on the shelving rocks of the south shore of Caribou Island. A heavy gale was blowing at the time and a big sea was on, and as soon as the steamer struck her stern was forced around until she lay on her side hard aground on the rocks parallel with the shore, in which position the iron monster was literally pounded to pieces—excepting about eighty of the 275 feet of her original length.

The vessel was not to exceed thirty yards from shore, but

in the terrific storm of wind and water then prevailing it was impossible for any one purposely to reach a place of safety. One poor fellow after being washed overboard was picked up by a wave and landed high and dry on the rocks, but he was powerless to render assistance to the people on the wreck, forty-six of whom went down before his eyes. The lighter parts of the vessel breaking up first, much of the woodwork and furniture, soon the sport of the waves, was carried along shore westwardly, some of which found its way through a narrow channel around to a fisherman's shanty, where a few fishermen happened to be housed at the time, and seeing this they followed the shore around in search of the wreck, which they found not to exceed half a mile off, and when the sea subsided they helped the survivors ashore and gave them shelter until help came from the mainland.

Although nine months had elapsed since the fateful day, the amount and variety of wreckage still lying on the beaches at the head of the little bights and coves for a distance of five miles along shore was, to our inexperienced eyes, truly amazing. In Conglomerate Bay, more than five miles distant, a half car load of smashed tea boxes lay upon the rocks. Hard by were half a dozen or more barrels of vinegar, all of which had been landed unbroken. All sorts of stuff constituted the *debris* on the beaches—tool handles, upholstered work, tables, beds, doors, window blinds and thousands of feet of teak wood, in which the cabin had been finished.

After listening to Captain Montgomery's recital our captain, with eyes beaming and chest heaving, exclaimed: "O, if I only could have been in the *Algomah* when she struck! What an experience I could have had!"

"I wish you had!" said Doctor Jo.

"Why?" asked the Captain, looking at him straight in the face, while a queer sort of look seemed to hover around his eyes.

"So you would have had the experience," returned the Doctor cherrily.

"Ah-h-h!" in diminuendo breathed the Captain, and the old good-humored look returned to his eyes.

But I have often wondered since whether the Doctor meant it just that way or not.

Of course the Professor had a hobby. He would not have been a professor else. He rode the botanical horse, though he was willing to dismount and leap any natural history colt at the drop of a hat. One day he brought in a snake, the only one I saw on the island, which he chloroformed as tenderly as if it had been an infant. The name he gave it was *Eutania radix* (Hoy's garter snake), and it settles the question that the *radix* is an inhabitant of Isle Royale. Certain of the wrecking crew told me of a remarkable adventure they had with rattlesnakes a few weeks before our arrival, but a subsequent examination of the narrators, "separate and apart from each other," developed the truth. Their stories were so contradictory that I was emboldened to charge one of them with manufacturing the yarn for the occasion, and he admitted it. One did insist he had seen a "little snake," and possibly he had, but not a *Crotalus*. No harmful serpent lives on Isle Royale.

In like manner the wreckers told a story of a marvelously big caribou that had been seen by them. O, it was a gigan-

tic animal with such a head of horns as no caribou ever before wore; but a little cross-examination and an appeal to my old, old tactics of examining "separate and apart" exploded that story. One by one its strong points gave way. To one fellow it was a creamy white; to another it was a bright "summer-deer red," and to another still it was a "sort of a mixture." Ultimately it dropped out that none of them had been nearer to it than "across the bay," which was a good half mile, and it was seen (if at all) "soon after daylight." "I thought it were something I had never seen before, but it might have been a *link*," one of them finally said.

Whatever might have been the fact many years ago, I am satisfied there are no caribou on Isle Royale now. The name, *Caribou Island*, on which the propeller was wrecked, would seem to point to a time when caribou were found on Isle Royale, but if so, that time has passed.

But if there are no caribou there are lynxes, and judging from the signs these animals are quite abundant. The wrecker may have seen a "link," which by a stretch he took for a caribou. It is, I have reason to believe, the largest quadruped inhabiting the island, and the Northern hare is the next.

Of course the Judge had a hobby, and the Parson also. They rode double when they went fishing. Can I ever forget their devotion to the gentle art while on Isle Royale? How persistently they kept to the waters in pursuit of its inhabitants, and with what exultation on their return they exhibited the trophies of their skill! And what marvelous stories of adventure they told of evenings around the camp fire! I shall never cease to remember the tender regard these brothers of the angle had for each other. No matter how extravagant the story of the day's adventure told by one, if doubted by any of us, the other was a swift witness to corroborate every word, and if necessary more too. Of evenings succeeding days when they did not fish together they would sit by the fireside and recount to each other their wonderful experiences, and so credulous were they that neither was ever known to question a statement made by the other.

I have elsewhere said that while we had been informed that Rock Harbor was a famous fishing water, we had not been advised as to where or how to fish. The Judge had his heart set on speckled trout fishing, but the Parson was not caring so much about speckled trout if he could only catch fish. With two such devoted anglers knowledge soon came. I think it was the Parson who brought in the first great lake trout (*Salmo namaycush*), and with it came the information, "we must fish on the reefs."

The reefs were the places to take the *Namaycush* sure enough, and I am constrained to believe that if I tell the truth concerning this Isle Royale fish and fishing, I will not be believed. I doubt if I would have believed the story myself had I never seen it. I had caught this fish in the deep water along the Pictured Rocks, and had learned to look upon it as almost wholly lacking in game qualities. But here, at Isle Royale, the same fish was yet another fish. It was a good biter and a most tenacious fighter. Lying in the comparatively warm, shallow waters of the reefs, he no sooner sees the glitter of a spoon than he lets drive at it with all his might and main, and no sooner does he feel the

hook in his jaws than he sails off for deep water with a vigor and velocity that is surprising. His trick, after the first run to deep water, is to bore down for the bottom, after which rising in a long angle toward the surface, but never quite to it until he is ready to give up, he will either continue swimming lakeward or bore downward again. All the fisherman can do when a lively laker is on is to give him line and run him down.

I have spoken in another paper of the great plenty of reefs to be found all along the south shore of the island, and it is because of these reefs the fishing is so good. My information is that at the west end of the island the fishing is even better than at Rock Harbor, but while at Rock Harbor we felt no desire to find a better place.

One day soon after our arrival on the island the Parson was out in a canvas boat we had with us, and was trolling with a Buell spoon attached to an 8-oz. rod. Dr. Jo and I were in a small row-boat, and passing the Parson he told us that he had recently had a strike which he was sure had come from a monster speckled trout. "I saw his tail," said he, "and I know I can't be mistaken. I tell you he is a staver!"

Not long after, the Parson, who had kept to his reef, sang out: "Come here, quick!" which we did at once. His oars were lying in the boat, and he was holding his bent rod out over the bow and his boat was moving straight out to sea.

"What's the matter?"

"O, I've hooked the biggest speckled trout in the lake!"

"O, pshaw!"

"Yes, I have. It's the bull of the woods!"

It was evident we could render no assistance just then. All we could do was to follow along and be ready to help when the crisis came.

"See!" cried the Parson, "it's one of those big whoppers we read about!"

There sat the good man, his eyes in a fine frenzy rolling, and his rod in shape like a rainbow and his little boat moving right on."

"Keep back, boys," he exclaimed as we drew near, the meanwhile not taking his eyes off the place where his lure was cutting the water. "Keep back and don't come up till he's tuckered out and then you may help me land him. Mind your boat."

"Oh, yes, we'll mind our boat," answered Doctor Jo, after which, in a lower tone, he said to me: "Dave don't care a d—n for his next Sunday's sermon, does he?"

But all fights must come to an end some time, even the fight of a fish. The Parson was now reeling in and in a few moments his trophy lay gasping on his side whence his captor scooped him in.

"Say," said Dr. Jo., as the Parson turned to go, "do you think my balances will draw him? They're good for twelve pounds."

But the good Parson pulled away as hard as he could. He was not mad at the remark about the sermon for he did not hear it. His trouble was, his fish weighed only two and a half pounds and it was a lake trout. The Parson's pride was touched.

A few days after this occurrence the Judge said to me one afternoon: "Come, go with me and I'll show you something." In the little Osgood we rowed along shore

till we came to a rocky point jutting out in the deep water. Landing at the top of the little inlet at its side, the Judge proceeded to joint a split bamboo rod which he said weighed just seven ounces, after which he adjusted his line and tied on two flies, a white miller for his tail fly and a grizzly king for a dropper.

"Now this may not be *secundum artem*," said the Judge, "but I think it is the thing just now." And then he explained that the day before he had seen a "big" speckled trout rise lazily and look at a passing spoon at the extreme point of the rocks and I was to stand still and see him catch it.

The old fellow was terribly in earnest and moved up along the shelving rocks as stealthily as a cat. When within a proper distance, as he supposed, slowly rising to an upright position he rendered line and made a cast, but there was no response. Looking about him as if to see that he was still in the shadow of the rocks, he pulled off his hat and laying it down stroked his bald crown with his open palm, after which he took a step or two more and made another cast. Recovering his line he rubbed his bald pate once more and then made another cast and this time his flies landed at the outer edge of the point, but hardly were they on the water when I saw a golden sheen just beneath the water, which was followed by a splash. "I've got you!" said the Judge through his teeth, emphasizing and drawling the *I've*, and with that there began the prettiest piscatorial contest I ever saw. It may have lasted five minutes or it may have lasted ten, I cannot say. The Judge asseverated roundly on our return to camp that it was all of thirty minutes, and proved it, too, by the Parson; that is, he proved by the Parson that his story was not impossible. Long or short the fish was full of fight and it was all the Judge could do to come out the victor. The trout—for a true *fontinalis* it was—made strenuous efforts to get under the ledge at the point and it was evidently all his enemy could do to keep him out. At least he was led to the open water away from the rocks and up the little bay to shallower. The middle part of that was clear of broken rocks, while the edges were not. To my surprise the Judge plunged into the clear, cold water to his waist, where he had an open field, and in a little while his quarry came gasping to the surface and was soon in the net.

Never was a sportsman more jubilant than was my old fishing friend on this occasion. With spectacles awry he alternately rubbed his crown and shouted his loudest. When, after applying the balance, I told him his trout weighed "four good, honest pounds," he uttered a whoop that would have done credit to an Indian brave. He insisted on returning at once and when we came within sight of camp he tied his bandanna to his rod and waving it aloft shouted like a bibulous politician returning from an "outpouring of the people."

All the speckled trout fishing we had on the island was off the rocks. Here are the big fish: Doctor Jo took a three-pounder one day and I am satisfied that if our stay had been prolonged our fishermen would have found them in great abundance at their homes in the deep water all along the edge of the rocks. The Judge on one occasion took two at one cast, one weighing three-quarters of a pound and the other a pound and a half, but I dare not repeat the story he told of their capture, for even the Parson, it was plain to be seen, had much to do to stomach it. The abundance, the gaminess, and above all the juiciness, of the lakers made our fishermen indifferent in the main to the more aristocratic *Salvelinus*. We found the former much the better fish from the edible standpoint, and in their way not one whit behind their cousins in fighting qualities.

BEER AND THE BABY SPINNER.

A correspondent of *English Fishing* in the course of a perch angling bout met a sable rustic, a sallow, rather forbidding-looking individual, in a smock-frock and corduroys, his face, hands and apparel showing unmistakable signs of dirty work. Following is the writer's description of his capture of the sable rustic and the silvery perch, together with some account of the bait used for each:

"Good morning," I said.

"Mornin'," he returned, pausing to lean on his rake, and rubbing his forehead with his sleeve. As both were equally dirty no perceptible damage resulted to either by the operation.

I commenced opening my parallels. "Nice sheet of water this; looks as if there might be some fish in it."

"Plenty of stickleback," he grunted.

"And possibly a perch or two," I added.

He slewed his weather eye round on me with a suspicious look, and then, turning away, resumed operations on the weeds with another grunt.

This was not a very propitious commencement, so I opened parallel No. 2.

"Very hot this morning" (it was a fine September morning and I had tramped a good distance over the hills.) "I suppose there's no place handy where they sell beer?"

The word "beer" usually acts like a Masonic sign with men of his class, and I was once more favored with a view of my friend's face instead of his back. To be strictly accurate, I ought rather to say that I got a front view of him, as his face suffered from a nearly total eclipse on account of the ancient and time-honored stains which mantled on its surface. This time he wiped his mouth, and the action was not so much abstersive as anticipatory.

"There's the Three Feathers over yon'er, about one hundred yards away," said he, indicating its position by the heraldic sign of a sable thumb (dexter) rampant, reversed in the direction of the bar (sinister).

"I'm rather tired and very thirsty," said I; "so if you wouldn't mind taking this coin and fetching a jar of beer and two glasses we can see what sort of a tap it is."

Upon this there appeared a slight fissure in the geological formation of his face that led me to suppose that he was smiling somewhere in that locality, but his general outline was too misty for me to be sure of this. At any rate he dropped his rake with the alacrity of one of the "great unemployed" at knocking-off time, and "went for" that liquid with a vigor that would soon have settled all the weeds in the reservoir had he chosen to waste it on so uninteresting a subject.

I lighted a pipe, surveyed the scene, and awaited his return. When he came back we took a glass apiece and solemnly drank each other's health, at the end of which ceremony I was dimly able to take the bearings of his upper lip by high-beer mark. "Would he have any bacca?" He would; and I became further certified as to the position of that orifice by his thrusting a black clay bowl, with about half an inch of stem, into it. "Did he think there were any perch in the pond?"

"Well, there mout be here and there one."

I poured him out another tumbler, at the end of which he allowed "he'd seen 'em out there, under the lilies; big 'uns." And now, the ice being broken, he offered to produce his rod, which it appears he kept handy in the hedge. But I judged that the moment for action had now arrived, and unfolding my umbrella brought forth my own rod, which I put together, fitted with winch and line, and then produced the tackle I had determined to rely on.

This useful little apparatus is called the Baby Spinner, and consists of a thin triangular-shaped plate of shining nickel, about an inch and a half long, with two holes above and below for the line to run through. The two legs are turned up at right angles to the main body of metal, one to the right, the other to the left, so as to cause the whole to spin smoothly. Beads are strung on to prevent friction of line. Two feet or more of gut, with a couple of swivels, and two large shot at intervals, complete the tackle. On the hook are placed two brandlings, one above and the other below, each leaving a tail hanging. Shot your line according as you want to spin high or low.

My friend eyed these proceedings with silent surprise and some apparent misgiving, but as he was well outside two or three glasses of my beer I at once took him into partnership by blandly observing: "I think we shall do nicely with this, eh?"

"What be that, master, a fly? That there's no use at all."

"I'm going to see about that myself," I replied, and at once proceeded to cast out about seven or eight yards from shore, and spin slowly along the border of some weeds. I had hardly done so before I was fast to a big fish. I thought for one moment it was a stump, but I was quickly and gloriously undeceived. I did not give him much play, but hauled him in. He was a splendid fish of 1½ lbs. How lovely his burnished gold sides and black bars looked upon the grass!

This was a grand beginning, and yet it was only a beginning, for this sort of thing went on all the rest of the afternoon. It was a case of "*da capo*" (please, Mr. Printer, don't print it "*da capo*"—firstly, because I didn't catch any carp, and, secondly, because I am given to understand that this is a serious paper.) And when I had fished all round that pond, I counted up thirty-one victims, all of them, with few exceptions, glorious fish. The largest, when I put a penny in the scale with him, weighed at the Three Feathers exactly 2 lbs., and very few were under a half pound.

I don't think my sable attendant altogether relished my great success, for I heard him observing on one occasion that if I went on like this I would empty the pond; but I pacified him with a present of a dozen or more of the smaller fish, and we finally washed away all trace of bitterness in a draught of bitter ale. "*Similia similibus curantur.*"

The Anglers' Guide to the Fishing Waters of the United States and Canada—Third Edition.—This book is invaluable to the angler and tourist. It tells how eight thousand fishing waters are reached, the species of fish therein, hotel accommodations and cost, cost of guides, boats, etc., baits used and the best months for fishing. It also contains a summary of the fish laws of the States and Territories and those of the Canadian Provinces. Handsomely bound in cloth. Price \$1.00. Address THE AMERICAN ANGLER, New York.

THE BEST OF GOOD FISHING.

Lieutenant J. M. T. Partello, who, as we mentioned some weeks ago, is furnishing a very interesting series of articles to our sporting contemporary, the *American Field*, has a letter in the *Philadelphia Record* on fishing in the far Northwest from which we take the following, written from Fort Keogh, Montana:

The best fishing in the United States is to be had right here in the Northwest. North of the forty-second parallel and west of the Rocky Mountains as far as the Pacific every stream and every tributary contains some species of the piscatorial tribe, ranging in size all the way from the diminutive whitefish of the Yellowstone and its neighbors to the gigantic salmon of the wonderful Columbia. All the streams in the country, whether large or small, have some kind of fish in them. We have every style of trout, such as spotted trout, black trout, silver trout and salmon trout; also grayling, whitefish, sturgeon, steel heads, Buffalo fish, Dolly Vardens and catfish. Of course, our gamest fish is the true Rocky Mountain trout, and next to this beauty comes the king of fighters, the Montana grayling. This latter specimen seldom makes the wild and fishy leaps indulged in by his twin brothers, the mountain and the brook trout, but when he does "catch on" to a fly, so to speak, you might well imagine a whale was at the other end of the line, instead of a mere three or four-pound grayling. He fights deep, although he is a surface feeder; but once firmly hooked he makes longer and stronger surges than other fish of the same size, and centers his strenuous efforts to escape in making deep dives. Trout, grayling and whitefish harmoniously thrive in the same stream. I know it is a piscatorial rule that sooner or later the more voracious fish in a pond, lake or stream will clean out the weaker ones; but, strange as it may seem, such is not the case with the three kinds mentioned. The writer has made castings in the Gallatin River in western Montana with two flies on a line, and brought up both a grayling and trout. A second cast would yield a grayling and a whitefish, or a trout and a whitefish, and so on. I have heard that some enthusiastic disciples of Brother Izaak have more than once caught up all three at a single cast. It is a peculiarity of the Rocky Mountain trout that it exhibits well defined traits of kingly breeding. Wherever a pool can be found, snugly and quietly hid beneath some moss-grown bank, overhanging rock or cluster of low bending trees, there in the sheltering nook a sovereign is to be found, monarch of all it surveys, and "alone in its glory." Cast a fly there if you dare, and you have business on your hands from the start.

Among the fine fishing streams in this vicinity I should mention Stillwater Creek, Big Boulder, Upper Yellowstone, Gallatin, Pryor's Fork and Clark's Fork of the Yellowstone. The first named is a gem in its way, and was selected some years ago by the Crow Indians as a favorite camping spot. The stream rises in the Clark's Fork range of mountains, and cuts down through a beautiful and luxuriant valley that is a veritable little Eden. This clear and sparkling rivulet is fed by springs of the purest and coldest water to be had on the continent, and when the snows in the mountains melt and come rushing down the rocky, craggy sides,

seeking an outlet to the sea, Stillwater Creek is transformed from "a thing of beauty" into a mad, rushing, roaring torrent of muddy water. In a few weeks, however, the overflow is carried away, the stream settles and becomes as clear as crystal, and the finny inhabitants of the Stillwater can be seen sporting among the sand and rocks below. Such is the description of all the trout streams in the Northwest.

There are also scattered over this broad domain of country thousands of beautiful crystal lakes, the like of which is unparalleled elsewhere on the globe. Nearly at the head of Stillwater Creek is Rosebud Lake, which is simply teeming with trout. Flathead Lake, on the Jocko Indian Reservation, is a great resort for Indian fishermen; Cœur d'Alene Lake, a magnificent sheet of water in Northern Idaho, simply too beautiful and lovely to describe in words; Yellowstone Lake, in the National Park; Lake Colville, on the eastern edge of Washington Territory; Henry Lake, on the Western border of the great national reservation, and last, but not least, the famed and beautiful Lake Pend d'Oreille, in the panhandle of Idaho. The *Record* correspondent had the pleasure of a sail and a fish on Pend d'Oreille a fortnight ago, and has decided it to be the *ne plus ultra* of them all. Nestling down among the peaks of the Bitter Root Range, dotted here and there with wooded islands filled with game, abounding in fish and so deep that bottom can scarcely be found, this queen of lakes sitting enthroned among the mountain peaks of the Northwest has no rival in this or any other land. Jumping from a boat upon the beach of one of the islands the guide startled a fawn, which hastily sprang to its feet, gazed at us wonderingly for a few seconds and then scampered off among the timber and out of sight. Trout rose quickly to the fly from these waters, and some of their weights, even if given accurately and truly, might bear a suspicion of exaggeration about them, so I will refrain from naming such.

[It is but seldom that two anglers so closely agree in their estimate and description of the habits and fighting qualities of game fish as in this instance. It is a matter of congratulation to the Editor that such an acute observer and thorough angler as Lieutenant Partello describes the play of the Rocky Mountain trout and Montana grayling in language so closely phrased to our own as printed in *THE ANGLER* of January 1, 1887, from which we quote in corroboration, if need be, of the high estimate that the Lieutenant evidently places on these noble game fish.—ED.]

We fished the Gallatin at a point about four miles from the town and, as I descended the bank to reach the stream, the surface of the pool before me was mottled with jumping and feeding fish. Here a grayling, there a trout and in between, a whitefish. It seemed a sacrilege to the memory of Brother Izaak to place a lure before them. Stifling our qualms (easily done) we walked above the pool and cast our two flies at the lower end of the incoming rapid. Two fish, of course—one a grayling, the other a whitefish; the first on a brown hackle, the latter on a coachman. Again a cast, again two fish, and so on for a half hour, alternating in species between the trout, the grayling and the whitefish.

The grayling of Montana, to catch which I had traveled more than 2,000 miles, did not disappoint my angling expectations. It is, I think, a stronger fish, with sturdier fighting qualities, than its congener of Michigan waters. It has a thicker, broader body, and a somewhat longer head, but is much less beautiful in contour and coloration. The Eastern fish is more clipper built, leaping frequently from the water when hooked; in fact reminding me, measurably of course, of the skip-jack or lady-fish of Florida, which is almost constantly out

of the water "dancing on its tail," when you are bringing it to creel. The leap of the Montana grayling is not frequent, as the fish is disposed to fight deep, making longer and stronger surges under the restraint of the tackle than those of Michigan waters. The coloration of the two fish differ; the violet bloom of the body, seemingly translucent, is of a more delicate tint in the Eastern fish and more generally diffused. The dorsal fin, from which the graylings derive their specific name—*signifer*, "the standard bearer"—is not so high or so resplendently colored as those of the Michigan fish. * * *

Again—It is an established fact that the Michigan grayling cannot live and increase in any stream in which trout or other fish have established themselves. They seem to diminish very rapidly under such conditions, and, strange to say, the reverse is the fact in English waters, where *Thymallus* holds its own against the brown trout. In the Gallatin the trout, the grayling and the whitefish live in harmonious brotherhood. On one occasion, using three flies as an experiment, I caught one of each of these three fish at the same cast, showing that they feed and range together. * * *

In the Gallatin the trout, although found feeding indiscriminately in the open stream with the other fish, exhibits traits peculiar to his higher breeding and to those of his Eastern congener. Wherever a pool was found, created by an offshoot from the main stream, wherein a shelving rock or overhanging trees formed a sheltering nook, we always found a single trout of good size, sovereign of the domain. In such a spot the Rocky Mountain trout showed many of the game qualities and intelligent resources of his Eastern brother, and to his credit be it said that wherever such conditions of the stream existed he was sure to be found in the pool, from which he had driven the grayling and the whitefish.

I do not wish to convey the impression that the Rocky Mountain trout is not *par excellence* a game fish. I simply say that he has not the fighting intelligence of our native fish. He is a strong fighter when hooked, but has not the snap in seizing the lure, or the desperate leap and frenzied shake of the head when hooked. His range being unconfined on these broad streams, his idea of escape centers in strenuous efforts to get as far away, across or up the stream, as possible from the restraining cause, and, if the tackle is not strong, or the fish well fastened, he is apt to succeed, without any other device than a muscular output.

CLOTHES MADE OF FISH SKIN.

The Gilyaks make another use of the salmon which I do not remember to have heard of in other countries, inasmuch as they employ the skin for garments. Hence the Chinese call them "Yupitatzé," or fish skin strangers. The fish skin is prepared from two kinds of salmon. They strip it off with dexterity and by beating with a mallet remove the scales, and so render it supple. Clothes thus made, I need hardly say, are waterproof, but they have an objectionable smell to noses polite. I was fortunate enough to purchase on the Amur a fish skin coat, which I believe in England is unique, for there is nothing like it in the British museum. It is handsomely embroidered on the back, the intermixture of colors being skillfully wrought in needlework.

Fish skin, however, is used only for summer clothing. In winter the Gilyak delights to clothe himself in the skins of his dogs, or of fox or wolf, as being next warmest. The tribes further west, as indeed do all the Siberian people, employ the skins of the reindeer and elk for winter clothing.

Portraits of Game Fishes, on gray tinted Bristol board, 7x9 inches, at the following prices, post-paid: Single copies, 10 cents; Fresh Water series (23), at \$2.00; Salt Water series (37), at \$3.50; Whole Series (60), at \$5.00. The list includes all the game fishes of American waters. Descriptive catalogue free. Address THE AMERICAN ANGLER New York.

Notes and Queries.

THAT CHEAP CANVAS BOAT.

The article in a recent issue of THE ANGLER "The Convenience of a Canvas Canoe," by Mr. S. M. Harper, seems to have attracted the attention of many anglers. We have received several communications on the subject and among them one from Mr. R. M. Shurtleff, the well-known landscape painter of the Adirondacks, who is an expert sportsman as well. Mr. S. writes: "I have already made two paper canoes that proved very successful and were cheaply made. The first one, costing less than five dollars and weighing twenty pounds, lasted nine years, though used by all the boys of a country village. But I should like to hear from Mr. Harper and doubt not it would interest many readers of THE ANGLER." Others write in the same vein and it will be quite in order for Mr. Harper to briefly detail his methods, thereby perhaps bringing out much useful information from others.

LATER.—Since the above was in type we have received from Mr. Harper a full account of his method of constructing his canvas canoe, accompanied by simple illustrations which serve to render the text perfectly clear. This will appear in our columns as soon as the drawings can be reproduced—probably in our next issue.

A BARL OF EELS.

I was talking a while ago to an elderly man of the sea who knows all the coast hereabouts as well as a poor man knows the bottom of his own pocket, and, in the course of conversation, happened to remark that I had been much surprised and amused on one occasion this season at taking and "boating" a large king crab with an 8-oz. fly-rod when fishing for weakfish off Staten Island.

He didn't seem to be particularly interested in this feat, but he said speaking of the king crab reminded him of the way they used to catch eels when he was a young man and lived down the coast of —well, I'm blessed if I remember now just what part of the coast it was, but it does not signify, and it certainly was not far from here. He then went on to explain that they used to get a barrel with one head out and sink it on the bottom near the shore, (I think it was in or near the mouth of a river or kill), putting stones enough in it to keep it there. Then they would get a king crab (I am not dead sure they didn't get the king crab first), and carefully cut a large round hole in the back of his shell exposing all the interior royal mechanism, which he seemed to recall as little more than a "wriggling, squirming mess of guts and sich." The king crab, hole and all, was then placed on the stones in the bottom of the barrel, and he assured me that in less time than it would take a stuttering man to say "Jack Robinson" that bar'l would be choke full of the finest eels he ever saw. The remainder of the trick consisted simply in scooping out the eels with both hands as fast as possible and chucking them on to the shore, or, if that was too distant, into a boat or fish-car at hand.

Now I should like to know if readers of THE ANGLER are

familiar with this method of taking eels and if not whether they were otherwise aware that king crab was a specially favorite morsel with the slimy ones. I have heard since my talk with the Captain that it used to be the custom to catch eels in a barrel by heading up both ends after having bored holes in the staves and tacked leather pieces over them so as to form a series of valves through which the eels could readily push their way into the barrel but were unable to displace when they tried to get out. I think I was told that the bait used in this sort of fishing is *asafetida*, compared with which the aroma even of a king crab would seem to be less far-reaching.

BEN BENT.

HERRING ON THE FLY.

Following interesting account of a Scotch method of fly fishing for herring was sent to *THE ANGLER* early last spring, but through some oversight was mislaid and only recently rescued from the "oblivion of forgotten things:"

In *THE AMERICAN ANGLER* of April 30th last is a letter of President F. J. Babson, wherein he says: "Menhaden and herring or alewives don't bite." This is the first time I have had the chance of reading *THE AMERICAN ANGLER*. I chanced to see it in the news store and, having a great love for fishing, I bought the journal and told my newsman I would take it every week. So I hope this that I am going to write will benefit some of its readers. I am not a great hand to write to a journal, as it is not my profession, but I will do my best in explaining to those that have a love for fishing the way to catch herring with the hook.

The art of catching the herring with the hook has been known to the Scotch since the time of our great grandfathers. It is more than thirty years ago that I commenced to catch herring with the fly, using a fly that will take nearly every fish that swims. It is the best mackerel lure that is made, but when one is fishing one requires a good long line, because a large fourteen-pounder will often tackle this fly and you will have to give and take. In Scotland we give it the name of "the dandy lion," though it is not so dandy as a Jock Scott, or so expensive.

Now I will try to explain the way to make them. Use from six to twenty four hooks—six is plenty for sport. Take seven strings of gut for the body of the line. When tying the knot leave one and a half inches of each string for the snell. At the one and a half inches tie the hook with black silk thread. Cut two inches of silver tinsel and fix it on the shank near the bend of the hook, and when the gut is tied put the tinsel round the shank to the end, showing the silk at every turn of the tinsel. Then a small piece of blue, yellow, red, gray or dark feather. You can use all colors of feathers. No. 5 Limerick is the size of hook in use, but when fishing for large mackerel use No. 1 and plenty of feathers.

In Portland, Me., I fish from one of the draw bridges and last year people were amazed at my taking herring and mackerel. I took six nearly every time and as fast as I could lift them. I gave thousands away and the people told me they never ate better fish. I made tackle for a number of tradesmen and they loved the sport. The cost is twenty-five cents for six flies, twenty cents for line,

twenty-five cents for a bamboo rod, a cheap reel (I brought my reels with me, so I don't know the cost of them) and a three-ounce sinker. I bought a long bamboo rod and cut pieces from the butt and point till it was fifteen feet long and put a brass ferrule in the center, as it requires to be stiff. Sink the hooks about the length of the rod, but if the fish are nearer the surface do not give so much line; if deeper give more line; work the hooks about as fast as a mile an hour and when you hook a fish keep the line tight and let the fish run and they fill in a few seconds. Be careful in lifting herring, for their mouths are tender. It is great sport to have six herring on and five drop off before you land them on the bridge, but that don't occur often, though you don't get them all unless you are in a boat.

One set of this sort will last a tradesman nearly a season, for we don't get many days to fish in the week. I know I don't. Last summer my boss gave one Saturday afternoon to half the men, and the other half the next Saturday; but the Lord made fish for man, and I borrow half the Sunday to catch them, and in the evening go to church, for I think it is the best and most healthful sport a poor working man can have. I may mention that this fly represents the young herring. The fishermen on the east coast of Scotland catch the herring for bait. When they are lying at their lines they fish with the dandy. Their lines are not so expensive. In Aberdeen they use twenty-four white and small-tined hooks, about 4 in. apart, without feathers. This represents the naked side of the fish before they get on their scales. They will take barrels of herring in a few hours with this rig.

J. H. T.

Portland, Me.

A HERMIT OF THE LAKE.

Chambers' Journal gives the following curious development of a fish under abnormal conditions:

In a lake in Berkshire a large misshapen and unwieldy chub was found, so strange in appearance and unsightly in its movements that the most apt zoologist could not account for its lineal descent or say if it was piscatory or amphibious. The creature was found in a kind of cage formed by the washed roots of an elm tree by this lake. When young and much smaller this fish must have got into its strange prison. Limited to a mere turn, the wonder is that—as it must have forced its way in—it did not force its way out; but here it was, after years must have lapsed, taking quite the form of the gnarled and struggling roots. With no room to develop the tail had almost disappeared, the dorsal fin was altogether obliterated, the body had become very hard and the scales like so much incrustation of mud divided into layers. The nose was so pushed in and the gills so enlarged that, when looked at full in the face, it had the appearance of a negro whose face had been despoiled of its shining and oily surface. Indeed, its existence was a matter of marvel, as the water subsided and increased at times, so that in dry weather it had only the most muddy home and a semi-fluid for its subsistence. When removed it seemed a puzzle to know whether to class this strange discovery as a reptile, fish, or anything else.

STRIPED BASS AND CAVIARE.

I noticed in an issue of *THE ANGLER* a short time ago the statement that striped bass had again begun to run up the North and East Rivers more freely this season, thanks to there being less impurity in the waters of the lower bay. I have not noticed during the past summer any conspicuous lack of impurity in the lower bay, but it may have changed in character, as, for instance, sludge acid may have given place to drippings from the Tortilito mine, but I can't see more in this to attract even fish (except they be suckers) than in the usual and conventional garbage that cumbars our harbor.

It was a long time ago, but I remember it well, for I was a boy then and the full tape had but recently been put on the Ticker, the rollers were freshly inked, the battery was working finely and the impressions made then were clearer and more lasting than later ones. Well, then, a long time ago I used to be very fond of fishing for striped bass a hundred and odd miles up the Hudson River and some fine strings were then made there from the ends of long docks and from boats anchored just off the grass sods on the flats of adjacent *elys*. It was no rod and reel affair in those days, but a plain straight away pull and haul on a hand line when one of 'em took the bait.

The bait! That brings us to the point.

In those days there we knew of but one bait for striped bass. We knew little or less about shedder crabs; "shrimps" was only a synonym for mean fellows and trolling with sand-worms was as unknown as was "skittering" for ducks. But we caught lots of bass and we caught them all with sturgeon spawn. We didn't know any better and there was plenty of it.

It was a wonderfully good bait, but it had its little drawbacks. It had to be made into a sort of "gob" with the fingers and then tied onto the hook with a thread of black linen. Tuen, too, it was subject to very rapid decay. It did not take long for a good hot sun to convert a nice mess of bait into a few frizzled, festering black shreds of concentrated stench that made the perfume of a neighboring slaughter house seem but a breath of rose leaves blown through honeyed lips by comparison.

Great care had to be taken in tying on the spawn, for if not well secured when the cast was made it would leave the hook and, describing a beautiful parabolic curve, land far out in the stream, leaving behind it curses and bitterness of heart.

But few bass I believe have been seen of late years so far up the river and at any rate they could not now be fished for with the same old bait, for the sturgeon long ago disappeared from those waters. They were exterminated by a discovery.

So long as sturgeon were only netted as an ordinary food fish to supply the local markets with "Albany beef," as this highly colored and oleaginous meat was called, there was no particular danger of the yearly catch exceeding the yearly production; but when a local fisherman of more intelligence than his fellows found suddenly that the roe of the sturgeon was alone worth more than all the rest of the carcass, then the slaughter began in good earnest.

I was told by one of the fishermen most prominently en-

gaged in this business that the roe was treated in a particular way and sent direct to Russia, whence it returned in due season nicely prepared and labeled "Russian Caviare," so it is not improbable that many a New York epicure has eaten as a relish with his bottle of Rhine wine or Moselle, *Caviare* that had been carried almost by his own door in the live fish and had since then twice crossed the ocean. The Hudson no longer offers "*Caviare* to the General."

BEN BENT.

TURNING THE TABLES.

A dispatch from Florida which appeared the other day in the New York *Herald* details the fierce and fatal attack of sharks upon a man in a boat while crossing one of the Everglade inlets on the east coast, as follows:

The dread of the mail carriers on the Florida southeast coast are the Hillsboro and New River inlets, which have to be crossed by small boats. Here the dark waters of the Everglades empty into the Atlantic with tremendous force at this season, and if the ocean is rough the meeting of the cross currents produces heavy and dangerous seas. Sharks of the fiercest kind fill the inlets.

James E. Hamilton, the mail carrier from Miami to Lake Worth, was an athletic young man and carried the light mail on his shoulders, walking the entire distance, seventy-five miles, on the beach. He left Lake Worth on Tuesday, in the morning, and should have reached Refuge Station, twenty-five miles distant, that afternoon.

Late at night a fisherman named Waring came to the station and told the story of Hamilton's horrible death. Waring was about one-half mile from Hillsboro Inlet when he saw Hamilton get into his boat to cross. He noted that the sharks were about in unusual numbers, and just as Hamilton reached the center of the crossing a huge one drove at the boat and bit a piece off the gunwale.

Hamilton struck at the sharks, but nothing could drive them off. Soon both oars were bitten in two, and then the fierce tigers of the sea seemed perfectly ravenous. They tore at the boat, snapped at one another, and the water for yards around was dyed with their blood. The boat began to fill, and the sharks, scenting their prey, redoubled their dashes.

Hamilton stood on the middle seat as if stupefied glaring at them. Looking up and seeing Waring, he cried out to him, but in vain. Even as he shouted a huge shark dashed up and hit the partially filled boat a tremendous blow, throwing Hamilton out into the midst of the monsters.

A cry of agony was heard as he went down, and the devourers had him piecemeal before the horror stricken spectator could take in the full measure of the tragedy. As soon as Waring recovered his senses he went to the station and told of the affair. A searching party went out at once, but nothing was found save the remnants of the boat cast on the shore.

The terrible catastrophe has cast a deep gloom over the coast people, and no one has yet accepted the position of mail carrier over that route.

The above reads very much like a big fish story, but we happen to know that the "local coloring" of the tale is minutely correct. It is a fact that the mail is carried over this stretch of beach for twenty-five miles by a man named Hamilton and others, and it is also true that they are obliged to cross the two inlets mentioned and have done so for years. It has frequently happened that the boats kept there for crossing have been used by some one passing recently the same way and have been left by them on the opposite sides of the inlets. In such cases it has been the custom of the mail carriers to swim the inlets with the light mail bags on their heads. This shows that these inlets cannot be generally frequented by schools of large sharks, as in that case disaster would have happened long ago.

Now as to the probability of larger sharks deliberately

attacking a boat for the purpose of eating the man in it we prefer to say nothing, but we do happen to know that sharks and other varieties of large and rapacious fishes, when closely crowded together in water too shallow for them, become furious with fear and in their wild efforts to reach deep water will fight and bite each other fiercely, losing their heads completely and sometimes throwing themselves quite out onto the shore in their mad efforts. It does not seem unlikely, then, that this strange accident happened as described.

WENT FISHING ON SUNDAY.

A police court reporter of the New York *Herald* tells the sad tale of a tailor who went fishing on Sunday thus:

When tailor Adolf Wolff came to Jefferson Market Police Court yesterday morning his face looked like the palette of an artist who is painting a marine sunset. Blue, red, orange, green, yellow and brown were the prominent colors, and they were well set off by the white linen bandages that covered his head. Both eyes, moreover, were swelled nearly shut; his nose looked like a rutta бага turnip, and his lips were big enough to make the matrimonial fortune of a Hottentot belle.

Adolf got out of bed at noon on Sunday at his boarding house, No. 277 Seventh avenue, with his heart full of yearning to go fishing. So after dinner he rigged his new sixty-nine cent fishing pole and went. He did not heed the fact that it was Sunday, and there may be some good people who will say that this is the cause of the misfortunes that afterward befel him.

Blithely he strode along down to the foot of West Thirtieth street, and there, at the end of the dock, he baited his hook with a clam and a half and waited for a bite. At the end of an hour, however, the wind from Weehawken had chilled him through, and as his clams were all gone he rose stiffly to his feet and tried to unjoint his fishing pole. Being a sixty-nine cent pole, however, it took a freak that it wouldn't be unjointed, and Adolf reasoned with it in vain.

"Vot you do vas all no goot," said a voice. "Der shooints hef shwelled because of der cold."

Adolf, looking up, saw a big raw boned man standing on the deck of a canal boat that was moored to the dock twenty feet away.

"Gome in mine gabin," continued the stranger with an alluring smile, "und warm yourself und der pole. It vas be all right soon on der top of der shtove."

This new theory of the action of heat and cold on inanimate matter struck Adolf favorably, and after poking the pole through the cabin window, so that one end rested on the back of the stove, he climbed down the ladder after his host. In the cabin he found the captain's wife, a pretty blonde, and a big black bearded friend of the family. This gentleman was an expert on fishing, and he gave Adolf no end of points about eels and hardshell clams, while the raw boned captain added to the solid comfort of the occasion by going out three times for a canful of beer.

Both of the strangers started out for the fourth canful, and Adolf found himself alone with the captain's pretty wife. He was gallantly beginning a remark about the

weather when, to his astonishment, she began to scream like a whistling buoy and called for help. The next moment the captain, who had evidently been waiting at the top of the ladder, sprang down into the cabin and grabbed Adolf by the throat.

Blow after blow was rained on the tailor's face and head until he was as limp as if he had been run through a quartz crushing machine. Then the captain threw him upon a bunk, wrenched his watch from his chain, turned his pockets inside out and finally dragged him up to the deck and threw him off upon the dock.

When Adolf recovered his senses he groped his way off the dock to West Street, where he stumbled against a policeman to whom he told his story.

[The subsequent proceedings were devoid of piscatorial interest, but the moral is none the less pointed or the tale less adorned by the fact that the canal boat captain was sent to prison, while his blonde wife went off with the black bearded friend and Adolf was led home by a brother tailor and put to bed.]

FISHING NOTES.

The steamer Ailsa arrived last week from Costa Rica, having encountered a school of sperm whales 220 miles south of Sandy Hook. While running at full speed the steamer first grazed one of the monsters with her port bow, and a moment later, with a shock that made the vessel quiver from stem to stern, the blades of the propeller plunged into the creature, inflicting such serious injuries that the whale died and sank before the vessel had passed out of sight.

The Columbus, (Ga.) *Sun* presents the following for the thoughtful consideration of its readers:

At Mayport, about a week ago, a haul was made with a seine owned by M. Conant, and fished by J. B. Arnau and crew, around a school of berryfish. While they were taking the fish out of the seine, on the beach, a shark of the man-eating species made a rush for the fish and grabbed the net in his mouth. He seemed bound to claim a share. One of the crew killed him with an oar by striking him on the head, while the others rushed into the water, grasped him by the tail and pulled him out. He was nine feet long.

Oh, shades of Ananias and Sapphira!

As anglers are apt to be close observers of Nature and are particularly anxious to be well up on weather signs, the following may interest them:

One of the simplest barometers is a spider's web. Nature says that when there is a prospect of rain or wind the spider shortens the filaments from which its web is suspended and leaves things in this state as long as the weather is variable. If the insect elongates its thread it is a sign of fine, calm weather, the duration of which may be judged of by the length to which the threads are let out. If the spider remains inactive it is a sign of rain, but if, on the contrary, it keeps at work during the rain, the latter will not last long, and will be followed by fine weather. Other observations have taught that the spider makes changes in its web every twenty-four hours, and that if such changes are made in the evening, just before sunset, the night will be clear and beautiful.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

PROTECT THE SALMON TROUT.

The time of year has now come when the salmon trout of the inland lakes in this State are on their spawning beds and I want to call the attention of the fish and game protectors and all those interested to the importance of preserving extra watchfulness at this particular time and until the lakes shall freeze over.

As most of the readers of *THE ANGLER* are well aware, the salmon or lake trout come on to the shoals or reefs to cast their spawn in the fall of the year, and it is at this time that the law breakers set their gill nets on these places and effect their capture. Strange as it may seem, the parties who are most given to this practice are the farmers living adjacent to these waters, when it would seem to any person of ordinary reasoning powers that these are the very ones who should be the most interested and the first to look to it that the fish were protected. I have been informed by several of the game protectors that on many of the inland lakes containing salmon trout nearly every farmer for several miles around was the owner of a gill net of greater or less dimensions and that they did not hesitate to use them whenever an opportunity occurred, and also that it required the greatest vigilance on their part to keep the spawning grounds free from nets. This is to be regretted exceedingly and that these people should be so short sighted as to commit the acts, which were against their best interests. The fish of the inland lakes are common property. They belong to the people to be taken in a legitimate manner, i. e., with hook and line held in the hand and at a season of the year when they are not in the act of reproducing their own kind.

If the fish are protected and not allowed to be killed in a wholesale manner there is hardly a day during the fishing season that any fisherman of average skill could not make a catch of enough at least to meet the present household demands. I do not know that there is anything particularly strange that there should be a certain set of vandals living in the vicinity of each of our inland lakes who rob them for the sake of making a few dollars, but that many intelligent and well-to-do farmers should resort to such a practice is a matter of not a little surprise.

For the benefit of those who are not familiar with the law of New York State relating to the lake trout of the inland lakes I will quote it:

CHAPTER 534 OF THE LAWS OF 1879.

SECTION 20. No person shall kill or expose for sale, or have in his or her possession after the same has been caught or killed, any salmon trout, land locked salmon or lake trout caught in the inland lakes or waters of this State in the months of October, November, December, January, February and March of each year, and in Lake George the additional month of April. Any person violating any of the provisions of this section shall be deemed guilty of a misdemeanor and in addition thereto shall be liable to a

penalty of ten dollars for each fish so caught, killed, posed for sale or had in possession.

(As amended, chapter 617, Laws of 1887.)

SETH GREEN.

ENGLISH NOTES.

BY W. AUGUST CARTER,

(Of the National Fish Culture Association and Secretary of the Midland Counties Fish Culture Establishment.)

COLLECTING OVA.

Active preparations are now being made by fish culturists for the approaching hatching season. Owing to the coldness of the autumn spawning operations will be somewhat delayed, although the early spawners, such as the *S. fontinalis*, exhibited signs of considerable ova development during the second week of October. From the condition of the fish in the ponds of the National Fish Culture Association a good yield of ova is expected and in view of this elaborate arrangements are in course of progress for dealing with them. At the Midland Fish Farm ova will be collected not only from surrounding waters but also from abroad, so as to supplement the numbers laid down in the hatchery, the proprietor, Mr. William Burgess, of Malvern Wells, being in a position to receive and deal with as many as 5,000,000 ova. The past summer has been particularly unfavorable to fish in our rivers, but it is to be hoped that it will produce no ill effect upon the operations of the fish culturist in obtaining the germs of life for his watery establishment. In Spain various private firms are negotiating for supplies of trout ova, having set up hatcheries for incubating them. It has been found that the *S. fario* thrives well in that country and therefore the inducement to stock waters with it increases every year.

WANTED A FISHERIES EXHIBITION.

What is required here is another fisheries exhibition to again stir the nation up to the condition of the denizens of the aqueous kingdom. The interest evinced in the exhibitions recently held at Norwich and South Kensington was immense and produced a wholesome effect upon the apathetic and ignorant. Much truly is being done in all branches of piscatorial work, but still we have not yet realized the necessity of increased exertions not only in regard to the culture of fish forms, but also to the exercise of thriftiness in gathering them in for daily consumption. We require further fishery organization to effect this!

THE FULTON CHAIN HATCHERY.

Under date of October 25th I am in receipt of a letter from one of my assistants, Mr. E. L. Marks, who is in charge of the Fulton Chain Hatchery, which says that he is meeting with good success in procuring speckled trout spawn for that hatchery. He has already obtained 186,000 eggs and will surely get 200,000 at least. He reports the eggs in fine condition, a large percentage of which will hatch. The fish from which the eggs are obtained are carefully handled and returned again to the lakes and streams from which they were taken.

SETH GREEN.

THE MEGANTIC FISH AND GAME CLUB.

We have received a very handsome little publication entitled, "A Guide Book to the Megantic, Spider and Upper Dead River Regions," issued by the secretary of the Megantic Fish and Game Club. To all persons contemplating a visit to this section of the country—no doubt one of the finest sporting territories in the land—this little work seems indispensable. It conveys in a very pleasantly written series of articles, descriptive and statistical, a great amount of valuable information for the tourist and sportsman, and besides being profusely and artistically illustrated, contains many admirable and carefully drawn maps of the principal localities, camps and fishing grounds throughout that entire section of the country. The club itself appears to be in a most flourishing condition. Its membership is large, and in the book before us are the plans and elevation of a spacious club house for the accommodation of members and guests which it is expected will be completed for occupancy during the next open season. The pamphlet is compiled and issued by Heber Bishop, M. D., of Boston, the secretary of the club.

THE HAT CREEK HATCHERY.

A letter has been received from the State Salmon Hatchery on Hat Creek, a tributary of Fall River, stating that the first run of salmon had arrived there. This confirms Mr. Sherwood's previously expressed opinion that the hatchery is badly located, because of the late arrival of the fish there. Cold weather has now set in and the hatching of salmon eggs will go on very slowly during the winter.—*Marysville (Cal.) Appeal*.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

(Reached via Staten Island Rapid Transit Co.—R. W. Pollock, Gen. Traffic Manager, New York.)

The water here for the past week has been very rough. Notwithstanding this, there has been some excellent sport with the striped bass. Most of the fishing was done from the shore through a heavy surf, and it required a skilled angler to land some of the larger ones.

On Tuesday Mr. Adolf Freikohf, of New York, caught nine striped bass, one weighing 3½ lbs. On Thursday Mr. A. Tehman, of Atlantic Gardens, New York, caught eleven, weighing 20 lbs. Same day Mr. Carl, of Grand street, New York caught three which tipped the scales at 9 lbs.

Mr. Wm. Vandewater, of this place, a well-known angler, landed twenty-five fine fellows the largest weighing 4½ lbs.

Mr. Wm. White, broker, Broad street, New York, caught four on the same day, very good ones. Bait used this week was the white worm.

Most all of these fish were caught on dead low water. Fishing for weakfish and kingfish is about over. Striped bass will be good until cold weather. The midnight boat from Whitehall street brought a good many fishermen down for Sunday's fishing.

On Thursday of last week Mr. James Hart (brother to Mr. C. A. Hart, County Clerk of Richmond County), had a remarkable struggle and a good deal of sport with a striped bass at West Brighton, S. I. As soon as the fish felt the hook in his mouth he gave a sudden and violent jerk, which pulled the reel out of the seat and up to the first eye of the pole; there the line began to pay out at an alarming rate, and just as the last of the line was running from the pole Mr. Hart caught it with his hand near the tip, and after a good deal of work he succeeded in getting the fish near enough to the shore to enable him to wade into the water up to his knees; he then secured him by the gills and thus landed him. The fish weighed 5½ lbs. Since then the spot has been thick with the boats of ambitious fishermen looking for a 5½-pounder.

N. D.

New Dorp, S. I., Oct. 23.

The following score was made by Mr. H. Lowenstein, at Eltingville, S. I., on the 25th ult.:

Date.	Species of fish caught.	Number.	Weight of largest.	Total weight.	Bait used.	State of water.	State of weather.	Direction of wind.
Oct. 25	Strip' bass.	4	4½ lbs.	.....	worms.	clear.	cloudy.	South

(Reached via Old Colony R. R.—Geo. L. Conner, G. P. A., New York City.)

MATTAPOISETT, MASS., Oct. 27.—Since my last report we have had some very good salt-water fishing and some splendid catches of tautog have been taken. On the 17th of this month my friend and I went out at 8 A. M. and came home at 2 P. M. with about 100 lbs. of good ones. I know some of our expert anglers think that sort of fishing is demoralizing, but I find most people enjoy it when they get the chance. My friend caught three that pulled down the scale one at 9, one at 8 and one at 5 lbs. We used for bait clams and fiddlers. I note in your last issue that striped bass fishing is good along the East River. Can you inform me what bait they use? When I was a boy our market used to be stocked with striped bass. They were taken with seines, or rather, they used to stop the mouth of a cove at flood tide, and when the tide went out the fish were left stranded. Any information in relation to taking them with rod would be gladly received. I think they must be here in our waters now, though I've not seen one for more than fifteen years.

G. H. D.

A BOUT ON THE EMBARRAS RIVER.

Recently a party, consisting of the following gentlemen: Harry Stoddert, Otto Weiss, Joe Landes, Frederick Roderus, Charles McCrory and Francis M. Parker, fully equipped with fishing tackle, left this city at the early hour of 3 A. M. for a day's recuperation and angling on the Embarras River, at McCa's Ford, eight or ten miles south of here. The party reported a jolly good time, with a creel containing 54 fish, as follows: 40 bass, black and yellow; 8 new lights (croppies), 1 catfish, 1 goggle-eye, and 4 sunfish. The largest bass weighed about 1½ lbs., smallest about 8 ozs. The largest new light weighed about ¾ lb., smallest about 6 ozs. The catfish weighed about 1 lb. Mr. Parker's goggle-eye weighed about 1½ lb.

The party were angling under difficult circumstances.

under low branches of trees, and lost several fine fish. It is very natural for anglers to lose the finest fish just as they go to say "Oh! he is ———."

Otto Weiss has the finest rod and line of any angler in the city. It was very warm and cloudy with a strong wind blowing from the southwest. Highest temperature, 80°; lowest, 68°; mean, 74°. Condition of water, very low and clear.

J. B. D.

Charleston, Ill., October, 1887.

PURSUIT OF A LONE FISHERMAN AND OTHER GAME.

By the authorities of Madison County the time for catching pickerel in this lake closed with September. This, as every one knows who is posted on the subject, prevents catching them when at their best. They have fully recovered from the spring spawning and are not too far gone in the next season's preparation, and the water is cold, so that they are in their prime. This renders the law comparatively a dead letter to most. But there is a "game constable," and once upon a time he essayed to capture a lone fisherman. The boat he obtained had a keel, while the fisherman's was flat-bottomed. The race began; but just as he was about to seize his game a quick turn left him going on while the fisherman was going the other way. Finally the race was given up, as the constable's boat leaked badly and he had to go ashore to prevent sinking.

The season for fishing has been uncommonly good, though the pickerel have been rather small. Black bass fishing has been unprecedented. I have not seen the best catches reported, but have seen some very good. The twenty-three that weighed 56 lbs. I did not see, if anyone did. My partner often remarks that "half the lies told ain't true." But I have seen from fifteen to twenty or more that would weigh nearly 2 lbs. to the fish. These fish were taken with soft crabs. I wish some good fly fisherman would try them, as they are there to be taken by him who is able. L.

Cazenovia Lake, Manlius, N. Y., Oct. 26.

THE ST. LAWRENCE MASCALONGE.

A correspondent writing from Ogdensburgh to the *New York Sun* regarding the mascalonge of the St. Lawrence, records some excellent scores as follows:

A man with piscatorial ambition in taking his first view of a mascalonge becomes infatuated with a desire to catch one, and when he succeeds goes about wherever he can find listeners to tell how he felt when the fish struck his line and went out of the water. This fish, when hooked, almost invariably jumps out of the water and strikes at the line with his tail in an effort to disengage himself from the hook.

During the present season twenty-five mascalonge have been caught within ten miles of this city and reported and recorded on Mr. Newell's books in competition for the prizes. The largest fish taken this season weighed thirty-nine and forty-one and a half pounds respectively, drawn. Last year the fish were not required to be drawn, and it was discovered that the winner had been taken into Johns-

town Bay and five pounds of shot poured down his maw. The fish was sent to Grover Cleveland and after the shot was taken out it graced the platters of the White House.

Among the lucky ones who have captured mascalonge here this year are William Earl, who led off with a fifteen and a half pounder; John C. Goodrich, J. L. McConnell, Hobart Owen, Fillmore Tanner, James A. Hubbard, Fred M. Crane, Ezra Alguire, Charles Lavier, Fred Gamble, Patrick McCarthy, F. S. Cooley, E. L. Richards, J. H. Conden, James L. Humphrey, Isaac Griffith, Frank Bronson, H. C. Dean and J. H. Callaghan. Some of these caught two, and one captured three. These have all entered their fish for the prizes, and caught them within ten miles of Ogdensburgh.

The records of Mr. Newell show 2,718 black bass, 174 pickerel and twenty-five mascalonge entered the present season. Many parties of two captured from forty-four to sixty bass in a day.

Mascalonge fishing is good all the way from Cape Vincent to where the Canadian line crosses the St. Lawrence River. The Hon. Harry White, of Massena, on three fishing expeditions, caught five of an aggregate weight of ninety-nine pounds. In the swift water they are as active as trout.

A Boston man told a hotel clerk to call him for the 6 A. M. train next day. He was neglected and slept over. He came down stairs madder than a March hare and swearing like a trooper. He wanted to know what in sheol a man could find to entertain himself with in a place like this. Uncle Jerry said:

"Get a boat and go catch a mascalonge!"

"What! Got mascalonge here? Show me the place!"

"Fish anywhere!"

The man went out, chartered an oarsman, boat and fishing tackle, and started. He had not reached the lighthouse before he struck a 33-pounder, and after fighting it half an hour had it beached and secured. He hurried back to the hotel, sent for a carpenter, and had the fish's measure taken and a box made, procured ice and sawdust, and had his mascalonge packed to take with him on the afternoon train. When he left he said:

"Uncle Jerry, I beg your pardon; your clerk has done me a great service. Why, I would have staid here a week to catch that fish!"

Fishers for mascalonge use a stout line 150 feet long, most any kind of a trolling spoon, a hammer or a pistol, and a gaff.

The sport and excitement of mascalonge fishing on the St. Lawrence is equal to facing the antlered buck in the Adirondacks or Alleghanies, the lion in the jungles of India, or the bison on the plains.

The Fishes of the East Florida Coast.—Contains a description of the different fishes caught on the Florida Coast, with their habits, modes of capture, tackle, baits, etc. Eleven illustrations. Pamphlet form. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

The Game Fishes of the West.—A practical Angling Treatise fully illustrated. The essays have been written by the most prominent angling authors in America, and this edition is essentially a text book for anglers and lovers of natural history. Paper. Price 15 cents, postage free. Address THE AMERICAN ANGLER, New York.

ANNOUNCEMENT BY THE EDITOR.

During the past five years I have been engaged in the collection of material for an extended work on "The Fishes of North America," to be illustrated by chromo-lithography.

With this latter object in view I have spent many months on selected fishing waters, where, accompanied by a skilled artist, I have caught most of the prominent game fishes of America, which were transferred, on the spot, to the canvas, before the sheen of their color tints had faded.

The design is to furnish a text-book for the student and a kindergarten study for the angler. To aid in this object the fish will be shown in the natural position, when in the act of swimming, and extreme care has been taken, not only to give the coloration in life, but also with distinctness the specific markings, including the exact number of spines or rays in the fin construction.

Each fish to be presented has been, or will be, caught on my own rod, with the artist, ready for work, within a short distance from the pool, or with his easel in the stern sheets of the boat.

In many studies of individual fish, the artist has caught the coloration from at least ten, and often twenty-five specimens laid before him as they came struggling from the water. Under no other conditions can be procured an accurate transcript of the evanescent tints which, in many fish, fade or alter in tone at the moment they are lifted from the water.

I now propose to place the result of these (to me) pleasant years before the anglers of America.

The publication will be issued on heavy plate paper in monthly parts (size of page 12x17 inches.) Each number will contain

1. Two (2) portraits, of fishes colored as in life, printed on heavy card board. The portraits will average one foot in length.
2. Scientific classification and description.
3. Local names and habitat.
4. When and where caught.
5. Method of capture.
6. Tackle and lures used.
7. Striking incidents of capture.

The work will consist of at least forty parts, containing portraits of eighty or more fishes that take the hook and line in the fresh and salt waters of the United States and British Possessions.

It is proposed to issue the initial number in a few months, followed by one or more consecutive issues on the 15th of each month.

The terms will be \$1.50 per number, the subscriber to reserve the privilege of discontinuing his subscription if the plates and text of the first part are not satisfactory.

The expense of publication will be very large, the plates alone aggregating \$15,000, and I trust that the anglers of America will earnestly aid me in publishing a representative work on a scale commensurate with the importance and refinement of the art which we have all learned to love so well.

Those of our readers who desire to subscribe for this work will kindly address me at the office of THE AMERICAN ANGLER, where specimens of the oil paintings can be seen and further information as to the character of the issue can be obtained.

WM. C. HARRIS,

Editor of THE AMERICAN ANGLER.

The Angler's Score Book.—Contains blank forms (with stubs) for registry of fish caught; their species, size, weight, baits used, waters fished in, with conditions of wind, water and weather. Pocket size, paper cover, 10c.; in limp cloth, 25c. Address THE AMERICAN ANGLER, New York.

Among the Many Novelties

Introduced by us last spring were the

Dead Finish, Waterproof Braided Silk Fly Lines, FOR SALMON, TROUT AND BLACK BASS.



These lines have given perfect satisfaction and stood the most severe tests. THEY DO NOT CRACK, CHIP OR BECOME STICKY AND STIFF but remain soft and pliable. These lines are waterproofed through and through, not merely on the surface. They will not become tender in use or by age.

Also a new style **LANDING NET**, made of **WATERPROOF BRAIDED LINEN LINE**, which prevents the hooks from catching in the meshes. The prices of these nets are only a little in advance of the old style made from twisted thread.

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TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
The Carp from an Angling Standpoint. Nov. 19, '81.
Deep Trolling in Fresh Water. Dec. 21, '81.
Chub Fishing with the Fly. Dec. 21, '81.
Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
Modern Tackle and How to Use it. April 8, 15, 22, 29, May 6, 20, '82.
Holding Hard and Killing Quick. April 1, 29, '82.
Catching Shad with the Fly. April 15, '82.
Basket Straps, Shoes, etc. April 22, May 5, June 2, '82.
Baits Used in Salt Waters. May 6, '82.
When to Strike. May 20, June 10, July 15, '82.
Trout of the Yosemite. May 27, '82.
Trolling for Lake (Salmon) Trout. May 27, '82.
The Reel, Gaff and Rod. June 2, '82.
Trolling for Bluefish. June 17, '82.
Tackle and Traps. Aug. 12, '82; March 15, '84.
Light vs. Heavy Bods. Aug. 26, '82.
Waterproofing Fish Lines. Nov. 18, '82.
Trouting in the White Mountains. Dec. 2, '82.
What is a Pike? What is a Pickerel? Illustrated. Dec. 16, '82.
A Sole Leather Bait Box. Illustrated. Dec. 23, '82.
Striking and Playing a Fish. Dec. 30, '82.
The White Perch. Illustrated. Dec. 30, '82.
A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
A Treatise on the Black Bass—Habitat, Modes of Capture, etc. Illustrated. Feb. 3, 10, 17, 24, '83.
The Strawberry Bass. Illustrated. Feb. 17, '83.
A Treatise on the Pike—Habitat, Tackle Used, etc. Illustrated. March 3, 10, 17, 24, '83.
The Reel—Its Place on the Rod. March 24, April 14, June 16, '83.
The Atlantic Salmon, Scientific and Popular Description—Habitat and Capture. Illustrated. March 31, '83.
Minnows as Bait. Illustrated. April 7, 14, 21, '83.
Catching Flounders. Illustrated. April 7, '83.
The Trout of Maine Waters. April 14, 21, 28, May 5, '83.
The Trout Streams of the United States and How to Reach Them. April 14, '83.
A Serviceable Fishing Boat—How to Build it. Illustrated. April 21, '83; Dec. 20, '84.
Making a Split Bamboo—Amateur Work. April 28, '83.
Varnish for Rods. May 5, '83.
A Treatise on the Brook Trout—Habitat, Habitat and Capture. Illustrated. May 12, 19, 26, June 2, '83.
The Colorado Mountain Trout. May 12, '83.
A New Minnow Pail. Illustrated. May 12, '83.
The Striped Bass—Rock Fish—Description, Modes of Capture, etc. Illustrated. May 26, June 2, '83.
The Split Bamboo—Its History, etc. May 19 and June 2, '83.
A Treatise on the Bluefish and Weakfish. Illustrated. June 9, '83.
The Smelt of Sebago Waters—Description, Capture, etc. Illustrated. June 16, '83.
A Treatise on the Sheepshead. Illustrated. June 16, '83.
The Lake Trout—Where, When and How to Take Them. Illustrated. June 23, 30, July 7, '83.
The Kingfish and Bonito—A Practical Essay. Illustrated. June 23, '83.
A Treatise on the Black Drum and Spanish Mackerel. Illustrated. June 30, '83.
How to Play a Black Bass. June 23, '83.
A Treatise on the Blackfish and Flounder. Illustrated. July 7, '83.
Black Bass Minnow Rods—Their Construction, etc. July 7, '83.
A Treatise on the Lake Herring—Cisco. Illustrated. July 7, '83.
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The Codfish and the Haddock—How Taken on the Hook. Illustrated. July 21, '83.
Amateur Rod Making. Illustrated. July 21, Sept. 29, Oct. 13, Oct. 27, Nov. 17, Dec. 22, '83; Jan. 5, 12, 19, 26, Feb. 2, 9, 16, 23, '84; Jan. 3, 10, '85.
The Eenshall Rod—Dimensions, etc., given by Dr. James A. Henshall. July 21, '83.
A Treatise on the Lafayette (Spot) and the Menhaden. Illustrated. July 28, '83.
The Shad and Snapping Mackerel. How, When and Where to Take Them. Illustrated. Aug. 11, '83.
Anglers' Knots. How to Tie Them. Illustrated. April 8, May 6, 13, '82; Aug. 18, Sept. 8, Oct. 6, '83.
By Laws of a Fresh Water Club. Aug. 18, '83.
A Treatise on the Hogfish—Salters' Choice. Illustrated. Sept. 1, '83.
A Treatise on the Pike-perch or Wall-eyed Pike—Habitat, Habitat and Mode of Capture. Illustrated. Sept. 8, 15, 22, 29, Oct. 6, '83.
Dressings for Flies. Sept. 29, '83.
The Biaby Trout—Scientific and Popular Description; How they are Caught, etc. Illustrated. Oct. 13, Oct. 20, '83.
Rod Joints. Illustrated. Oct. 20, Nov. 10, '83.
Description and Review of the American Anglers' Casting Tournament. Oct. 21, 28, '83; Oct. 20, 27, '83; Oct. 18, 25, Nov. 1, '84; Oct. 24, 31, '85; May 23, June 4, '87.
Fly-fishing for Trout. Oct. 27, '83.
Fishes of the East Florida Coast—How, When and Where Taken. Illustrated.
The Channel Bass. November 10, 17, 1883.
The Salt Water Trout—Florida Weakfish. 17, "
The Red Grouper. 17, "
The Rock Grouper. 24, "
The Pompano—Po. 24, "
The Crevall or Crevalle. 24, "
The Mangrove Snapper. December 4, "

- The Ladyfish—Skipjack—Bonedfish. December 1, 1883.
The Jewfish. 1, "
The Sergeant Fish—Crab Eater. 2, "
The Tarpon—Tarpon. 2, "
The Black Drum. 2, "
The Salt Water Catfish—The Conger Eel and Mullet. 14, "
The Best Bait for Black Bass. Illustrated. Dec. 15, '83.
The Fishing Grounds of Florida—Tackle and Lures. Dec. 22, '83.
Trout Fishing on Rapid Streams. Dec. 29, '83.
The Trout of Northern Michigan. June 9, '83.
Reason and Instinct in Fishes. Nov. 24, '83.
Preserving Fish as Specimens. Jan. 26, '84.
Black Bass Fishing in Lake Champlain. Feb. 2, 9, 16, 23, '84.
Fishing for Sea Trout. Feb. 9, '84.
Black Bass Grounds Near Baltimore, Md. Feb. 23, '84.
When and How to Catch Weakfish. May 10, '84.
A Treatise on the Land-locked Salmon. May 17, '84.
Game Fishes of the Northwest. May 24, 31, June 28, July 19, '84.
Black Bass Fishing at Henderson Harbor, N. Y. July 12, Aug. 30, Nov. 1, '84.
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A Weekly Journal of Fish, Fishing, & Fish Culture.

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SINGLE COPIES, TEN CENTS.

NEW YORK—CHICAGO, NOVEMBER 12, 1887.

VOLUME XII, NUMBER 20.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Boulevard St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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MASCALONGE NESTS.

I am not surprised that you should reprint from the *Sun* in THE ANGLER for the 5th instant the remarkable record of an Ogdensburg correspondent of the mascalonge catch of this season in that neighborhood. But I am quite surprised that you did not take some notice of the apocryphal statement of the writer anent their breeding habits, which he characterizes as "peculiar." Here it is: * * *

* * "they build nests on sand bars, of selected stones of about two pounds weight, sometimes carried a mile or more. The nests are where there is a steady overflow of clear

water, and are made in oval piles of about three bushels of stones. In these they deposit their eggs."

Mr. M. B. Hill, of the Clayton Hatchery, who, under the auspices of our Game and Fish Commission, is experimenting with this noble fish with a view to its artificial propagation, would have to catch his breath should this peculiar information fall under his eye. What Mr. George S. Tuckerman, of Jamestown, Chautauqua Co., would be apt to say, if he read it, may be inferred from what he did say in a letter to Supt. Seth Green about a year ago, as follows: "A very observing fisherman friend of mine on Chautauqua Lake says that he has watched their spawning for several years, and they spawn in the spring on very muddy bottom and lay a large quantity of eggs."

Another surprising statement of this writer is that men of learning and science have discovered that the mascalonge is a distinct family from the pickerel, by which term is meant the great Northern pike (*Esox lucius*), the fact being that they are simply different species of the same genus.

It must be these same learned men by whom, as he says, "the two fish can be told apart as soon as they are two inches long." However, that is an assertion much less likely to tax an angler's credulity than the astounding one that any of the pike family carry two pound stones a mile or more to make nests of on a sand bar. "W. T.," who probably has had a longer experience with mascalonge than any other angler of this country, extending over a period of more than fifty years, which yielded to his rod a thousand captures at the least calculation—says that they do not, like the *Salmonidae*, deposit their eggs in and cover them with gravel, but that their place for spawning is in the reedy edges of ponds, lakes and rivers inhabited by them. The subscriber must by this time have become well known among your readers as an admirer and defender of this Emperor of fresh water fishes in game and table qualities, and is believed to have established in your columns, against considerable opposition, the fact that the mascalonge often leaps out of the water after being hooked. But, however willing to have added to its "peculiar habits" any marvelous feats of strength and agility, he cannot at present writing subscribe to the theory that it will carry heavy stones a mile or more with which to compose its nuptial couch.

H. H. T.

Brooklyn, N. Y., November 7.

The Fishes of the East Florida Coast.—Contains a description of the different fishes caught on the Florida Coast, with their habits, modes of capture, tackle, baits, etc. Eleven illustrations. Pamphlet form. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

A TALE TOLD BY A SAILOR.

We have received the following letter and accompanying manuscript from our correspondent "Ben Bent," and, after some hesitation, have concluded to print both without comment other than the statement that THE ANGLER must decline to hold itself responsible for the individual opinions expressed by its correspondents, and has neither the time nor means to prove the truthfulness of all fish stories told by its contemporaries:

EDITOR AMERICAN ANGLER:—I have long thought the well-established and recognized legal dictum "every man is a liar and a horse thief till proved innocent" ought to be limited by some considerations other than those which are of a strictly legal character. Now, while our courts have quite properly declined to hold directly adverse to a legal axiom which has descended to us through the Norman-French from the days of William the Conqueror (*Tous les peuples manges et se sauvoient aux cheveux*), yet they have, in several instances, hinted in their decisions at a possibility of a modification of this principle, superinduced by circumstantial evidence. In a well known case [Ct. of Appeals, 1886, Biggs v. Buggs; 3 Keyes, 133; S. C. 2 *id.* 745, affirming Barb., 111] the court below was sustained in its ruling acquitting a man of stealing a red-hot stove on the ground that the evidence showed that he had been born without arms, and further, that, inasmuch as he habitually appeared in court with only one leg, a fair presumption was raised that he had lost the other one, and this conjunction of casualties opened the door for reasonable doubt of his guilt of the crime alleged; but as he had pleaded "not guilty" to the charge of theft, he was adjudged a liar and served out a sentence for the same, which was, I believe, transportation to Texas and the habitual companionship of Hon. Tom Ochiltree, of that State, for six weeks.

In another case (1. Johns ch. 784; 1. Vern. 465; 2. Bro. C. C. 771; Story's *Eq. Jur.* §§ 336-337) where a man (defendant) had frankly confessed to a friend and neighbor—a respectable and well-to-do counterfeiter supporting a large family (plaintiff)—that he was "a son-of-a-gun from the head waters of Bitter Creek and could steal the gold filling out of his grandmother's teeth without waking the old lady up" (she having been dead some years); it was held that the fact that the defendant had stolen a blind mule from the plaintiff was not conclusive evidence that he was a horse thief and further that if the facts warranted his statements as to his nativity and education he was not necessarily a liar. Practically the same principle is upheld in *Supreme Ct.* 1866, *Riggallow v. Rutabaga*, 46 Barb. 134.

Now with these few remarks tending to show the trend of judicial opinion regarding the offences mentioned, I present for your consideration the enclosed manuscript. A precisely similar story appeared recently in the Albany *Weekly Times*, but as I have carefully cut out and properly punctuated the same I do not hesitate to follow the example of the New York *Herald* in the matter of "Wood's Woman in the Moon" and offer the same as entirely original.

There are, of course, stuck-up purse-proud persons who would not even condescend to nod to an octopus if they met one in the street, who nevertheless profess to know all

about his family, his habits and the kind of underclothing he wears, and who will perhaps cast doubt upon, and in some instances actually discredit, this story. To such I can only say "*Caveat Emptor*" (Beware of the dog):

In 1865 I was one of the crew of the American barque Henry Castle, which made a voyage to the Java Sea and called at several of the larger islands. One day, while the ship was lying in the outer harbor of Samarang, Island of Java, two of us pulled the captain ashore in the gig. We landed him on a rocky point, whence he took a short cut across to the town, and were ordered to wait there until his return. My shipmate, whose name was Thurber, stretched out for a nap as soon as the Captain had gone, while I got out on the point to have a look around. The water was pretty deep alongside the boat, and by and by, full of sailors' deviltry, I picked up a large rock and heaved it into the water with a great splash. I calculated on having Thurber start up in alarm, but he only laughed at my effort. Then I set out to wet him with a splash and flung five or six other rocks as large as I could handle. I was hunting for yet another, and had my back to the boat and water, when something brushed past my head. I made a leap aside and wheeled around. In the two seconds thus occupied I decided that Thurber had thrown some missile at me, and I laughed as I turned about.

The laugh, however, died away in a shout of terror. An octopus with a body as large as a beer keg had risen to the surface and partly pulled itself on the rocks, and its half dozen terrible arms were flying about like so many whip lashes. It had flung one of them at me but missed its aim. Although I was now thirty feet away, it continued to fling three or four feelers in my direction, but none of them could reach me within fifteen feet. The two longest arms were from fifteen to eighteen feet long and the shorter ones from eight to ten.

If I could have restrained myself for a few minutes the monster would no doubt have sunk beneath the water again, but the stare of its great eyes, the sight of the terrible beak, the squirming of those horrible feelers as they tried in vain to touch me, made me cry out loudly. I might have known that I could make no headway against the monster with means at hand, but, acting upon the impulse of the moment, I picked up a good-sized rock and flung it with certain aim at the pulpy body. It was at this moment that Thurber rose up in the boat to see what was going on. The creature didn't see him at first, being entirely occupied in trying to get me into his clutches. I believe Thurber could have pushed the boat off and floated away in safety, but he also acted on the first impulse. Lifting up one of the heavy oars, he dealt the octopus a heavy blow, no doubt inflicting severe injury. He was raising the oar for a second blow, when I saw three or four feelers whip through the air at once and fasten to him, while the creature emitted a hissing sound like the blowing off of steam. The man uttered a scream of fright and terror as the feelers caught him, and sank down in the boat and clung to a thwart with the clutch of despair.

Mind you, everything had taken place in a moment, and I wasn't to be blamed for not knowing exactly what to do. However, I perhaps accomplished all that could have been

done under the circumstances. I hurled rock after rock at the creature, striking it fairly several times, but it refused to let go of Thurber. It kept two of the feelers ready for me, and once, when in my excitement and anxiety I approached too near, one of the feelers came so close to catching me that it struck my foot. The screams of my poor shipmate were terrible to hear, and they alarmed the crews of several vessels half a mile away. Two boats put off for us, but they had not passed over half the distance when the octopus put forth his strength and jerked Thurber from his hold and overboard. The water at that point was twenty feet deep and it was apparent that there was a sort of cave or recess in the rocks which was the home of the creature. We rolled more rocks down, got a long pole and thrust it down and after an hour's work got hold of the sailor's body and brought it to land. There was a terrible gash in his back, made, no doubt, by the beak of the octopus, and wherever the cups of the feelers had taken hold there were livid spots and blisters, but neither the blood had been sucked out nor any of the flesh eaten. I do not think any effort of ours scared the creature into giving up the dead. It had retained its hold until certain that life had departed, and had, perhaps, clung to it longer for our attempts. The natives said that my heaving the stones into the water had annoyed the octopus and brought him up for a fight, and that but for my action we should have seen nothing of him.

For over four years I was mate and master of a schooner plying between the Spice Islands and Singapore, in the interest of an American trader. I do not think I made a single trip without seeing from one to a dozen of the horrible devil fish. One day in the Banda Sea it fell a dead calm, and the current drifted us close in upon an island to the north of the Lesser Timor. We let go the anchor in the little bay, and when the schooner brought up she was in twelve feet of water and within fifty feet of the beach. The island was about three miles long by one broad, and covered with forest and underbrush. It was charted as uninhabited, except occasionally by pearl divers or wreckers, and as the weather bade fair to hold pleasant, no anchor watch was set. As the weather was hot the sailors slept on deck, there being one white man and five natives. Everything passed off quietly until just in the gray of morning, when a terrible commotion on deck routed me out. It seemed that an octopus had crawled up the low side of the schooner, perhaps to gratify its curiosity, but seeing the sleeping men, had, perhaps also to gratify its curiosity flung a feeler at one of them and taken such a hold of his hand and arm that he awoke with a shout of pain. The others were also aroused, and seeing what had happened they seized whatever weapons were at hand and made the octopus release his hold. I came on deck just as it fell into the water alongside, and the splash was as heavy as if a man had fallen overboard. A portion of the feeler which had grasped the sailor had been broken off by the blows. There were three or four feet of it, and for a time it squirmed and twisted about the deck like a snake. It had touched the man's flesh only in one spot on the back of the hand, but he made as much ado over it as one would over a bullet in the leg. It was a horrible wound, however. The flesh was puckered up and blistered, and the spot where the cup had taken

hold looked like an erysipelas sore. It was a long four weeks ere the wound healed, and the scar left closely resembled that of a burn.

I had the sailor in the cabin dressing his hand, and it was twenty minutes after we had beaten off the octopus, when there was another cry from the deck, and I heard the men run forward and tumble into the fore-castle and slide the cover. More from instinct than any thought of danger I closed the cabin door, then the skylight which lighted the cabin. There was a slide door in the fore-castle bulkhead communicating with the hold, and also one from the cabin. After two or three minutes the sailors came climbing over the cargo—we being about one-third full—and I let them into the cabin. I never saw a more frightened lot of men, and I could not at first believe the story they told. They said that when the octopus fell into the water he swam off in the direction of a rocky reef on our port quarter, and distant about two hundred feet. After a few minutes the men noticed a considerable commotion in the water, and this gradually approached. All at once they made out five or six octopuses, at the vessel's side, and before they drew back and ran away the monsters were throwing feelers over the low bulwarks.

"There's one of them, sir—there's one!" shouted the mate at this moment, and we turned our faces to the skylight to see three or four of the horrible feelers playing over it. At the same moment the schooner was canted to port with a sudden pull all of three streaks, or with as much force as a rough puff of wind would have exercised in an open sea. At this moment all the natives broke out into a yell of affright, and, as I sternly rebuked them, some one of them exclaimed:

"Oh! Captain, the devil fish have come aboard and not one of us can escape!"

There was no longer doubt that we were beset by the creatures. There was not a second in which the feelers were not playing over the skylight, and others could be heard fastening to and dragging things about the deck. As the entire affair was afterward put in writing, sworn to by every man on board, and left with the representative of the British Government at Surabaya, Island of Java, I shall not hesitate here to state particulars. The noise on deck might be likened to a row between four or five men. Everything movable was being moved and flung about. My skylight had a hardwood frame and heavy glass, and the feelers found very little to grasp. The noise made as the cups fastened to the glass by suction and let go again was like the snap of a pair of pincers. Looking from the bull's-eye in the stern I could see that the water was all in commotion, although there was not a breath of air outside.

I had a dozen muskets, as many pikes, several cutlasses and nine or ten hatchets in the cabin. This was the schooner's regular armament, for we were continually among suspicious people. I let the men take their choice of weapons, and then divided our force and sent half the number back to the fore-castle, from which they could open the attack at a signal. Then I carefully slid back the door of the companion to get a look on deck. The sight was one no man could ever forget. If there was one octopus on the port rail there were a dozen, and if there was one feeler twisting and squirming around the decks there were forty.

They were twisted about everything and pulling at everything. Every coil of rope was off its pin, and being dragged and whipped about in the wildest fashion, and from the motion of the schooner one could not but think the monsters were trying to capsize her. I did not have more than thirty seconds' time to glance around before three or four feelers shot at me at once, and I closed the slide not a second to avoid them.

It was death in its most horrible form to put foot on the deck and I sent word to the men in the fore-castle not to attempt any movement. I was in hopes that if we remained quiet the creatures would tire themselves out and go away after awhile, and we spoke in whispers and moved about as softly as possible. They had come aboard of us about 6 o'clock in the morning and at 10 o'clock were still there, though the last half hour the noise on deck had been less. This was accounted for by the fact that almost everything movable had gone overboard. There was not at that time a belaying pin, capstan bar, stick of firewood, oar or loose rope left on board. The scuttle-butt, which no sea sweeping over it could dislodge, had been wrenched from its fastenings and rolled from stem to stern a dozen times. Blankets which the men had brought up the previous evening had been rent and torn in all sorts of shapes as the horrid arms pulled at them. The tarpaulins had been torn from the hatches and dragged about, and had not the hatch covers been securely hooked they would certainly have been wrenched off.

Shortly after 10 o'clock I slid back the door to secure another look. It seemed as if some of the creatures were gone; at least there were not so many arms twisting about. Lifting my head until I could see along the port rail, I discovered the beaks of only two octopuses. Others were in the water along side, however, and had their feelers over the rail, some clinging fast to shroud or mast, while others were carefully moving about. A breeze had come up and I was angry and impatient at the delay, and I restrained myself to wait for another half hour. By that time the creatures had deserted us entirely. From the commotion in the water on the rocky reef I had no doubt that it was the den or nesting place of the creatures, and that they had returned after venting their anger on us as far as possible. Such a rattle-ripple I never saw before or after on a vessel's deck. We could not put to sea in such shape, but I had to threaten the men with a pistol before I could get one of them to enter the yawl and pick up the stuff floating about. We worked swiftly and as silently as possible to make good the damage, keeping a man on the lookout all the time, and we were a thankful body of men when the anchor was finally up and we were clear of the bay.

NOVEMBER ANGLING.

November's a poor month for sport;
The fishes have all gone to grass,
The only ones left to be caught
Being flounders and tom-cods and bass.

The angler becomes an expounder;
He substitutes ballots for boats.

His favorite prey is the rounder
And his angling is mostly for votes.

GUY HARRIS.

GRASSHOPPER FISHING IN MAINE.

The following admirable sketch is from the pen of the Rev. J. Clement French, D. D., and was originally written for reading at a dinner given by the Hollywood Club. We are directly indebted for it to a warm friend of THE ANGLER, Mr. Fred. H. Lum, of Newark, N. J., who prevailed upon the author to permit it to be published:

Not among the lakes whose names, "Molly-chunk-a-munk" or "Moose-luck-ma-guntic" and "Wee-lo-ken-ne-ba-cook," might be used as base-lines for topographical triangulation, but in the Sleepy Hollow Valley at the base of Blue Hill, wrapped on that August day with an azure mist, like a blue gauze veil over the face of beauty.

What though my bones were aching with the dull twinges of an incipient fever! was there ever a human being aspiring to Waltonian honors who could not feel the morbid humors of his system passing away into the dark flood along the fibers of his line humming with the tug of a royal 2-lb. trout?

If so, let him forever abandon his claim to brotherhood with the craft!

It was a sorry scow from which my friend D—— and I were compelled to cast our flies, challenging Herculean energies for its sculling.

But at length, through the lily pads choking the channels, over the waters of the environed lake, it came to its anchorage at the edge of the lilies and flanked the fisherman's paradise—a deep, dark pool, which the hot imagination peopled with schools, communities, yea, legions of "speckled beauties."

The day was propitious. The air was the balm of Southern scented breezes. The thick haze, as of a premature Indian summer, stole even from the midday sun his power to cast a shadow. The silence of Nature was contagious. Mutely we rigged our rods with the most deadly flies of the season.

Patiently we cast them across the rippled surface. Frequently we changed the lures. For if Nature was motionless, so were the trout. Three hours, in various open waters, of our persistent whipping brought to the surface only the same number of the finny treasures.

This was discouraging. We withdrew to an adjoining meadow at the clamor of appetite, to make use of at least one more bite and to hold a council of war.

As we trod the short, thick grass of the field, the grasshoppers rose and fell in showers, like the tinkle of falling rain drops on the stubble.

"D.," said I, "let's try the hoppers on these dainty fellows!"

"N-n-no use," said D., who was a moderate stammerer, "they are g-g-good enough b-b-b-bait in the b-b-brooks, but g-good for n-n-nothing in the lakes!"

Now my friend D. was accounted high authority upon all the habits and freaks of the *Salvelinus fontinalis* throughout the entire northeastern region of the State, and it was verily believed that with him all piscatorial wisdom would incontinently die.

As for myself, having no reputation in this line to lose, and being perhaps over fond of such experiments, I snatched

seven of these incautious *Cicadas* as they were executing their parabolic curves in mid-air, and, concealing them in an extemporized paper cage, we returned to the boat and to one of the pools which had so mocked our morning hopes.

It required some adroitness to remove, unseen of D., the cast of flies and substitute the bare hooks on which to impale my kicking treasures. Pride dictated this secrecy, for why should I subject myself to the taunts of my all-knowing friend, and go back to Ellsworth to "point his moral and adorn his tale?"

When, therefore, D.'s face was averted for a moment, I quietly dropped the two grasshoppers on the water. The split shot bore them slowly downward.

Fury! what a strike! Dipping the unguarded tip of my slender fly-rod, and requiring no return stroke from me to show that the prize was fast.

"Ho! you've got a bite," shouted D.

"It has that appearance," I responded through quivering lips.

Then began the battle. The strong fish swam deep. The rod bent and quivered like an oar in a gale. The line swished and sawed through the dancing ripples. Down to the bottom dove the mad victim to sulk among the grasses. A tighter strain of the line and away went the whizzing reel, responding to the call for fifty more feet of leeway.

Now he pauses. Upon the spring of the split bamboo we hold him, while a tremor as of a dying spasm comes back to the answering hand.

"What f-f-fly did you have on," gasped D.

"Judging by the heat of my reel, I should say it was a fire-fly," I responded.

Now onward rushes the desperate trout. Quick! my good reel! But what mean those double jerks—those strange contrary movements?

Not yet has the royal fellow deigned to show us a spot of his mottled sides.

But now, far across the pool, I am sure I saw a double flash.

But it is gone. Once more the supple rod is taxed to its utmost elasticity, with its butt far advanced, and then the strain grows less.

The kingly fish is owning the ascendancy of skill and bamboo over fin and fury.

Steady the turn of the musical reel; slowly, the captive—aha! the captives—two black backed, yellow-sided, red and green-spotted trout, each of one pound weight—floated unresistingly up to the scow and were safely landed at the feet of Mr. D.

"L-l-l-let me see that fly," stuttered my comrade. "Good cast that. By Jove! Two beauties! What! bare hooks! Y-y-es, I see; g-g-g-grasshoppers. G-g-got any more? G-gimme a couple. I'll try 'em on before they leave this country."

Well, with the seven hoppers we took seven trout of an average weight of one pound.

Then going ashore we caught fifty more of the tempting bait, and, returning to the charge, continued for another hour, and with many a hard-fought battle, to capture these sunny glories of the lake, until a mighty cloud, uprearing its dark bastion from the west and anon booming its low, sullen artillery, warned us to a covert from the storm.

We returned with a string of forty trout, the catch of less than two hours, resplendent even in their death and enough to make an epicure or a decent fisherman either content or crazy.

CRUISE OF THE WHITE HEIFER.

BY D. D. BANTA.

V.

Wave of the wilderness, adieu!

Adieu ye rocks, ye wilds and woods!

Roll on, thou element of blue,

And fill these awful solitudes.

—Samuel G. Goodrich.

When I sat down to write the story of this outing I thought to easily compress it into three papers of reasonable length. Perhaps it would have been better for all concerned had I done so, but, little as I have seen after all of Isle Royale, I have no knowledge of any one else having seen as much, or even more of it, who has told the story to sportsmen readers.

Isle Royale, I am constrained to believe, will ultimately be a place much frequented by that class of outers who pass the public places of frivolity and extravagance by and go straight to nature to

"Find tongues in trees, books in the running brooks,
Sermons in stones and good in everything."

Their tribe is increasing and I know of no other place where so many of the elements combine to give a thoroughly enjoyable outing. Here we have as absolutely an untainted atmosphere as nature in her laboratory can distill; pure, cold spring water by the square mile; a delightfully cool and enjoyable summer climate and a combination of rocks, hills, islands, evergreen wildernesses—all set in the midst of the largest and most beautiful lake of fresh water in the world. A thousand islands and headlands along the south shore offer camping grounds unrivaled for beauty and convenience and I doubt not the very best of fishing is accessible from every one of them. And what is more to the point with some, after our arrival, which was on the third day of August, I do not remember that a mosquito molested us. It would be a comparatively easy matter to select a wind swept camping ground on Isle Royale, where mosquitoes during August at least, and probably at all seasons, would seldom or never trouble.

Now to all this add the fact that there is not a hotel on the island—nay, not a permanent resident, nothing in a word to "molest or make afraid." Is anything lacking to make Isle Royale an outer's land of Canaan? True, it has its ugly days—days when the wind blows and drives the cold rain and mayhap the eye-smarting smoke, but in its halcyon weather the memory of the bad days is swallowed up. To "a woodland fellow, sir, that always loved a good fire," Isle Royale has attractions that must sooner or later claim the attention of the outing fraternity, and for this reason have I dwelt so long upon the theme.

It is quite true Isle Royale is not easily reached and herein is its greatest drawback. No line of public conveyance touches upon it. The nearest to that is a line of steamers in the interest of the Canada Pacific Railway running from some point on the Sault to Prince Arthur's Landing, which passes between Isle Royale and Passage Island, lying four miles asunder. If the weather happened to be good at the time tourists with their boats might be dropped off the steamers and reach land easily and in like manner be picked up. I do not know, but surmise ar-

arrangements could be made for that. The price of a round trip, I was told, from the Sault to the Landing on the north shore was \$25.

Most persons visiting the island sail over, but I never knew any one to get there who started in the White Heifer. That boat hired better than she sailed.

The portage boats were charging a hundred dollars last summer for towing parties, large or small, out to the island and returning for them at an appointed time—that is, fifty dollars each way. However the price may be from the steamboatman's standpoint, it is too high from the outer's. That is the best way to go, however, and let us hope that the prices may in the future be so adjusted as to look reasonable to the outer.

It must not be supposed the crew of the White Heifer kept within the boundaries of Rock Harbor all the days of their camping there. Divers exploring tours were made by different members of the crew, both on sea and land, one of the most notable being a voyage to Chippewa Harbor, about six miles from our lighthouse camp, westward. The Captain, the Deacon, the Parson and I went on that voyage. Setting out bright and early one morning in great glee, for half the distance we had a good breeze, after which the breeze fell, and thence our speed was distressingly slow.

The Professor set out for Chippewa the same morning over rock. He was bent upon finding certain plants peculiar to the sub-Arctic flora of the island. Both the Professor and the Parson were gifted botanists, and hardly a day passed by that one or the other did not bring into camp some plant of a high northern family with an amazing name. One day I remember in particular. The Professor and Doctor Jo went out on a tramp, and about noon we heard a halloo sounding much as if some one was in distress. "I'll just bet anything," said the Deacon, whose hearing was not very good, "that one of those boys has gone and fallen into the lake." It was evident that the sounds of distress were coming closer and closer. Presently we could hear the rustling and breaking of brush, and the Professor with his spectacles awry and his hair disheveled, and his hat in one hand and a tuft of something in the other, emerged upon the open ground in sight of us, where he jumped straight up as high as ever he could and gave a whoop that would have done no discredit to an ancient Chippewa warrior. He had found the *Allosorus acrostichoides* (Sprengel), a measly looking fern, which he declared had never been found elsewhere on United States ground except in Alaska. It was this particular fern that had induced the Professor to join our party, and the good man was so overjoyed at his success that he could scarcely contain himself. Another of the sub-Arctic plants brought in by him was *Arenaria graenlandica*, which he found on one of the islets. Franklin and the Parson brought in on one of their tramps.

We leave the Professor climbing rocks and worming his way through evergreen thickets on his road to Chippewa Harbor, while we return to the White Heifer and her little crew. Shortly before reaching the entrance to the harbor we met a row-boat crowded with a part of the wrecking crew returning from Siskoet Bay, whither they had gone in the steam tug several days before, for a lot of abandoned timber lying at an abandoned mine, to use about Algoma, and while there had run the tug on a rock and sunk it.

The crew having been without food for thirty-six hours, were returning to Rock Harbor. They ceased rowing long enough to acquaint us with their misfortunes and for us to promise Captain Merriman the loan of the White Heifer in which to sail the day following to Prince Arthur's Landing in quest of another steam tug.

The entrance to Chippewa Harbor, which is but little more, if any, than a hundred yards in width, is blocked against the entrance of large vessels by a reef; the narrow, tortuous bay, which extends a distance of two miles or more, is deep enough and long enough to hide a navy from the worst storm that ever blew. It is absolutely land locked.

But it is not with Chippewa Harbor or its magnificent scenery with which we are now concerned. Rather late in the afternoon we set out to return, but before reaching the lake we discovered that the wind was adverse and that if we reached camp that night it would not be in the White Heifer. Anchoring her in a secure place we took to the small boat and were soon on our way back. Not seeing or hearing anything of the Professor, we could come to no other conclusion than that he had either gone back or was lost. For the first mile or so I, who managed the steering oar, put out a troll and pulled in a couple of handsome lake trout, but a low hanging cloud in the south, occasionally illuminated by lightning, nipped all my desire to take fish and the troll was taken in. My companions complained, too, at the delay it occasioned.

We had a long, wearisome row of it. The breeze, which was light, was nevertheless against us. But it was evident that a strong wind was blowing southward of us, for the waves came rolling in to land from that quarter with increasing violence. At last it grew quite dark and with it a dark, ominous-looking cloud came up in the north, which seemed all alive with thunder and lightning. The Deacon sat in the bow looking out for rocks, while I had the steering paddle, and the Captain and Parson pulled manfully at the oars. Keeping as near shore as we dared, it was evident that if the worst came we could haul up on shore and camp under a tree. It is astonishing how darkness, thunder and lightning will extinguish talk. During the day conversation had run an incessant stream, but now it was hard to get an answer to a question. The outlook was into a gloom. On our larboard a great fog seemed to be rising, while on our port the clouds were swirling, the lightning flashing and the thunder rolling. And what an awful sound the waves were making at the very moment. Has any one ever noticed at such a time the hungry swallowing sound it is, or is it imagination with me? We had now reached the point of bewilderment. We ought to have been at home by that time, but as we were not, was it possible we had become bewildered in the island maze and crossed over toward Caribou Island? To suggest the possibility of such a contingency was to set doubts on foot. Not one of us knew anything for certain, yet each one "thought" this or that. The cloud in the north, or that had been in the north, seemed to be coming nearer. We could hear the storm roaring from behind its black folds. Dear me! how alike the little islands that we had passed and the ones we were passing did look in the uncertain light of the quivering lightning flashes.

"If Jo would only hang the lantern up in the light-

house!" said the Parson. "Yes," responded the Captain, "but he won't. All he is thinking about now is how to fill his belly." The Captain was losing his temper.

And then our rowers ceased rowing. We were all of us bewildered. The Deacon said the lighthouse was in one direction, and the Captain said in another. I wanted to go ashore and camp while we could, but the Parson said: "No; let's try it a little longer." There was the shore to our left, but we differed as to what shore it was. The roar of the storm was growing, and I again insisted on going ashore while we could, and my companions began to see reason for doing it, and slowly we turned our prow shore. Just then there came a double flash of lightning, and lo! the white lighthouse column I plainly saw not to exceed fifty yards away! and at the same moment the lantern was swinging in its window. Doctor Jo was concerned for our safety after all, more than the filling of his belly. But for the lightning or the lantern we would have camped in a thicket through a tempestuous night within a stone's throw of our dry tents.

We found that the Professor had returned to camp but a very short time before dark. The way had proved too long and rugged for him, and he was so badly knocked up that nothing short of one of Captain Montgomery's toddies could bring him to. But he had found a new club moss, a *Lycopodium selago*, (Linn.), and he was happy.

One other jaunt we took I will barely refer to. Every week Captain Montgomery went out in the steam tug to speak to one of the Canadian Pacific's steamers, as it steamed between Passage Island and Isle Royale. One evening our crew, by invitation, went with him. We steamed outside of Rock Harbor and had a splendid view of the chain of islands between the harbor and the lake, and of the "fingers" at the east end of the island. But the most glorious view of all was had after passing around the "fingers." It was Thunder Cape, twenty-five miles distant, rising thirteen hundred feet above the water. To mariners it is known as the "Sleeping Giant," from the figure on its apparent table top resembling a huge giant prone upon his back.

Our little steamer lay at rest on the bosom of the lake awaiting the coming of the Athabasca, the mate of the Algomah, which had gone to pieces on Canton Island the fall before, and in due time it came and stopped, and we all went aboard and were most happily entertained by the officers. To us the experience was novel, and among our most pleasant recollections will be the boarding of the Athabasca in mid-lake.

At the appointed time the tug Adams returned for us, and bidding our wrecking friends good-by we returned to Houghton, where the Parson left for his Dakota home and the Professor for his Hancock school. Our Captain, who had quite recently married, begged to be excused that he might go and see his wife, and the rest of us stuck to the Adams. We were detained two days and a night at Houghton and at Portage Entry. Late in the afternoon of the second day word came to the Adams' officers to return to Marquette, and in no very good humor at their delay, they set out as fast as steam could drive them. The White Heifer, which was a truly good sailer, had never sailed, I know, quite so fast as she did that night as a tow to the steaming Adams. About midnight the lake roughened but

the Adams kept on her way. Shortly after it was discovered that the White Heifer was nearly as full of water as she could well be, but the engineer of the Adams threw in another shovel of coal and turned on a little more steam. In the morning twilight we caught a glimpse of Granite Point, a place we had not quite forgotten, and by sun up the Adams steamed up to her dock, and as she came to a rest the White Heifer calmly settled down in about six feet of water.

[CONCLUDED.]

FOR THE AMERICAN ANGLER.

THE REASON WHY.

BY BEN BENT.

I cannot tell (I wish I could)
Just why the fishing was not good
I really thought, I must confess,
I should have caught a jolly mess;
But 'pon my word from morn till nigh
I did not even have a bite.
My friends had better luck than I;
The fish seemed rather prone to try
Their lures than mine, the reason why
Is not more clear than was the sky
On that bright day so soft and warm,
When cocoons burst and flies did swarm
And all the purling waters' flow
Seemed flushed and tempered with the glow
Of summer sun and flowers that grow;
And bursting buds and hum of bees,
And breath of June amid the trees,
Were all so full of promise bright—
It seemed the fish must surely bite.
But no, I'd not a single rise
To any one of all my flies.
I then bethought me of the lore
I'd often read in days before,
Explaining all things by some rule
Of science of the modern school;
But still I found no reason why
Until I sought much nearer by.
The reason was my friends had fished
While I had stayed at home and wished.

FOR THE AMERICAN ANGLER.

THE REAL ANGLER.

A patient angler sat on a damp stone
(I may add that he sat there alone)
And he really did try,
As he cast out his fly,
A nice three-pound bass to take home.
A fisherman came strolling by,
Who heard this man heave a great sigh.
For a small sum expended
A fine bass was appended
And carried home safely to fry.
We know the above statement is true,
Though to many 'tis not strictly new;
But you'll find it is best
If with luck you're not blest
To return—well, at least with a few.

Steubenville, Ohio, November 3.

FLY ROD.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper. Price 25 cents, postage free, Address THE AMERICAN ANGLER, New York.

THE GLORIOUS FOURTH AT SUCKER RIVER.

BY W. DAVID TOMLIN.

Whang-W-h-i-z,—Tir-r-r-z, Bang! 'Rah for the 4th of July! A fusillade of fire crackers, torpedoes and the deep boom of cannon, then the ki-hi-hi of a hundred dogs, the yelp of innumerable youngsters who tumbled into the streets and sent up a cheer that increased as it ran along the lines of the different streets and avenues of this hilly city.

Five o'clock in the morning and a cloudy day. The east tinged with yellow, old Sol doing his best to drive back the black bank of clouds and celebrate the nation's birthday. That yellow tinge is an unfailing sign "wet or wind," and perhaps plenty of both. Duluth had made preparations for an old-fashioned July 4th. A civic and military procession, a grand picnic, speeches from statesmen and politicians, base ball, and to close with a magnificent display of fireworks.

On this national celebration, 1887, many eyes turned eastward to read the signs of the times and ere the sun was two hours high, and before the first round of the boys' artillery had awakened the patriotic kids of Duluth, down came the exulting spirits. There's no mistaking rain when it does rain in Duluth. We had looked out to see how the morning broke, yawned, stretched, took in a breath of fresh air and looked at the clock. "Pshaw! what's the use of getting up this time in the morning?" came from the rear room. The young scribbler who used sometimes to write to THE ANGLER was growling "Ugh! going to rain, sure." He has grown too big to celebrate "with the kids," as he calls them, and was growling because the sky was threatening and the 4th of July was going to be a muddy day. We caught the infection and feeling "kinder blue" pressed the pillow again for another doze.

Pit, pat, pat, pat-t-t-e-r-r-r. Swish! Whew! hark at it now. Heavens! don't it rain? When it rains in Duluth, it rains! and this was keeping up the record. The cannons ceased, the fire crackers fuzzed and spluttered, but the moisture was too much for them. A half hour's rain and the clouds lighted up as suddenly as any transition could be made. Old Sol asserted himself, lighting up the dark banks of clouds with a burst of glory and bringing the clover-grown hillsides into grand prominence. The clouds scurried across the sky for a few moments and down came another shower. Old Sol didn't stay asserted. The clouds simply dropped their richness. The gutters were boiling, the ravines were turned into roaring cataracts and rushed to Duluth's principal street, and Superior Street became a mud pool. We turned out to get breakfast. At this moment the rain stopped and a well-known voice came from under the window "Hello, W. D.!"

"Hello yourself! Where did you come from?"

"Say, get the folks up. Tell Mrs. T. and Lewis to come over to our place and get breakfast, and as soon as possible let's go up to French River."

This was my friend Tom —, an enthusiastic angler, but a city official. He was one of the luminaries in the to-be procession, but the rain had "busted" everything, and as a holiday in Duluth on a muddy day is a terror, he said: "Let's get out of it and go trouting."

Trouting's the word!

In a few minutes we were seated at a family breakfast—such a breakfast! 'Twas 4th of July, and as we were going fishing we must load up well and take a big lunch along.

Rods, lines, creels, rubber rain coats, wading boots, for it's going to be a moist day, and off we start for the train, each one of us carrying a stock of worms. Just as we entered the Duluth and Iron Range train it began weeping again, and as the twelve miles strung out we watched all the rivers we crossed. Lester River was boiling but clear; Talmadge Creek was rushing, but muddy; French River was in flood and coffee colored, and still it rained. We reached Sucker River and the sun came out, our spirits climbed upward and we hoped we should have a fine day after all. Tom, Wal. and your scribbler jumped from the train and into the long grass. Gathering our rubber goods around us the *personnel* of the three anglers are sharp contrasts. Tom is a mixture of Scotch, Irish and Yankee, an enthusiastic angler, a splendid cook in camp or out, and an inveterate smoker when "skeeters" are buzzing. Walter, or Wal, as we call him, is a clothier, with sharp, hatchet face, keen gray eyes, and so small that when he gets into a rain coat you can scarcely see a face, only a hat and a pair of rubber-clad pedal extremities. He is a thorough "sharp," too, for catching fish and a terror for yankin' 'em. Trout get no mercy from him.

My friend Tom sports a rod that might land a 25-lb. mascalonge. Wal has a hermaphrodite rod, a little of everything, yet called a rod. Your scribbler has a rod-case under his arm containing a fine Chubb lancewood belonging to his better half, one that is cherished as a valued gift, and that in her hands has taken some small-mouthed bass of nearly 5 lbs. (My own rod was smashed into flinders.)

We get down to the big pool, joint rods, and prepare for a wetting. Sucker River is a rocky, rushing stream, full of holes and ledgy rocks, and a famous trout stream; but the rain was fast making it the color of a clay pool. Wading in and putting on a red worm and letting out about twenty feet of line, it was into a fish in a minute. I struck and brought up a gamy fish, but found it was a horned dace, and in another minute hooked a sucker—the pestiferous little wretches! the big pool was full of them. Tom saw me hooking them and yelled:

"Suckers, I'll bet!"

Wal came and tried and hooked two of them and departed in disgust, leaving me in possession of the pool. I knew there were some trout in the pool by the vicious way a big fellow was biting, though I could see nothing. The water was getting thicker and higher, and the rain came down again in a steady stream. We started up the river, the boys taking a trail through the woods, while I preferred fishing along up, and as we found we should soon have a wet skin in spite of the rubber coats, I waded in and got wet. The others walked along the trail and had the dripings of the foliage trickling down their necks until they were wet clear through. Once in a while I found a small trout and carefully fished for him for half an hour, sometimes even then failing to get him. It was discouraging to fish in such a rain and to know that trout were in the pools. I stopped fishing and went to a claim shanty belonging to a lake fisherman, where the boys had a fire in the stove. We sat

and dried ourselves, eating our lunch meantime.

The rain stopped for a few moments. This induced Tom and Wal to go up stream into the woods and try their luck while I remained at the mouth of the river. Thousands of minnows and fry of horned dace could be seen on the surface of the water about 100 ft. from shore; big trout as well, chasing them and jumping out of the water after them. I got a boat, hoping to induce some of these big ones to "catch on" to either fly, worm or minnow, but the whole of the bay was tinted a brick red from the clay and the roily water was coming down the river. Though trout were jumping not one could we hook, so, deserting the lake, we waded up stream and in the big pool hooked one good-sized trout. Stepping from rock to rock we tried all the pools. Some were deep, but we could not tell the depth until the worm sank. We coaxed out three trout in half a mile's fishing. Though it rained a steady stream we were not wet enough. Stepping from one rock to another over a shallow pool, as we supposed, the slippery rock tripped us and I fell forward, going in up to the waist. I feared the smashing of my rod and reel, but on getting foothold I found a trout on my hook.

Just as I crawled out from the pool I heard Tom yell:

"Hello! W. D.! Got anything?"

"Yes, got a ducking!"

"Good for you. What kind of one?"

"Only the pockets of my pants and boots full of water."

"I've beaten you. Slipped in and spoilt all my weed. Can't smoke any more."

"Where's Wal?"

"He's coming. I saw him trying to lay down and asked him if he intended taking a tub bath and shower bath combined."

"Got any trout?"

"Oh, yes, three."

I waded down again, taking the river just as it came. Deep and shallow pools, plenty of suckers and dace, but no trout. When we reached the lake again the sun came out and it cleared up for the afternoon. The trout were jumping in the bay and as we were discussing ways to catch them Wal came in wet clear up to his neck. In wading his feet had slipped and shot from under him into deep water, landing him on his back; so we were a splendid trio of anglers. Because we could not hook trout we must perforce drive them from the pools.

The famous Sucker River sank pretty low in our opinions, but what was the use of grumbling. It was a beastly day. You could not blame trout for not biting. The water was thick enough to choke anything and we surmised the trout had all gone down into the deeper waters of the lake. We said: "Enough of Sucker River." We were disgusted. Nine trout amongst three anglers for a day's fishing.

Since that time we have visited another stream eight miles further east and had a glorious fishing day. Caught plenty of trout and came home satisfied. Another season we will visit Sucker River, but not if a steady rain has set in before 7 o'clock in the morning, or if the yellow storm signal of this far northern region bedecks the sky when Old Sol tries to peep through. Then I stay home.

Scarcely a month since the season closed and as I sit penning this I look at frosted windows and ice forming on the

bay facing the harbor of Duluth, and awake to the fact that on this 25th day of October the thermometer slid down almost to zero. On the morrow the companion of many a fishing trip—who has held her place when the storms of life have beat their wildest, and, though suffering much, has enjoyed the annual camping trips—had anticipated spending the twenty-third anniversary of our wedding fighting the famous small-mouth bass at Pike, but an inch of ice has locked up the waters and the frigid weather makes us almost long for the sunny valleys of old Ohio, but there are no trout in the sunny south-land. The beautiful Indian summer of northern Minnesota will come after this snapping frost and we endure the bracing breezes and the frigid atmosphere because it has brought color to the pallid cheek and strength to the worn frame and given us a new zest in life, and we can enjoy fishing for *S. fontinalis* in such rivers as French, Sucker, Knife, Stewart, Encampment and many such streams along the north shore of Lake Superior.

Three days before we fished Sucker River a friend brought home one hundred trout, all of his own killing; but it was a clear day with a southwest wind.

Duluth, Minnesota.

JONES' LAKE.

A correspondent of the Boonville *Herald*, writing from the Adirondacks, suggests that if you are in the woods any time between the 1st of May and the 1st of August, you must not fail to try the fishing on Jones' Lake. The trail starts up the mountain just back of Forest Lodge, leading northeast through the forest and "fly" for about two miles, when you are led through gorge and glen for another mile, when suddenly you see a beautiful little lake surrounded by steep bluffs and magnificently wooded. This lake is full of fair-sized trout, and they have the reputation of liking to be caught. The water of this lake is not clear like Jock's Lake, and more or less grass and lily pads skirt its shores, but as you sit in the stern of the boat as your guide rows northward, you are awestruck at the regal magnificence of Panther Mountain, towering high above its neighboring peaks, and as you reach the head of the lake, at nightfall perhaps, standing in the awful shadow of its ever-green summit, your mind becomes peopled with images of that ferocious feline mammal, while the evening screech of the owl seems changed to the cry of the panther.

Having filled your basket with fish, up the slope at the right of the mountain you will find a good substantial camp where you can rest for the night (if the wind is east, if not you will be smoked out sure.) About forty rods further east, slumbering at the foot of Panther Mountain, is Deer Lake, an uninteresting sheet of water, aside from the fact that its myriad of lily pads and shallow water make it a favorite haunt for deer, from which it takes its name. Don't fail to take a long look at the perpendicular rock-ribbed steeps of Panther Mountain to the northward. Many an unwary deer has been dragged to that mountain fastness, and no securer hiding place for wild beasts can be found, even upon Ampersand or Mount Marcy.

Notes and Queries.

NATIONAL FISHERY ASSOCIATION.

The National Fishery Association, of which E. J. Babson is president and W. A. Wilcox secretary, will, by the direction of the Executive Committee, hold a meeting of the members of the association at the United States Hotel, New York City, on Wednesday, November 16, at 10 o'clock A. M., to hear the reports of the officers of the association and to act thereon. Also to elect officers of the association for the ensuing year. Also to adopt such measures as shall be deemed expedient for proper representation of the fishery interests of the United States in all matters pertaining to national or State legislation. As this is the first meeting of the association succeeding its temporary organization, it is desirable that every member, if possible, should be present.

AN OUTRAGE IN MAINE.

The following letter details an outrage perpetrated in Maine which ought to result in a criminal prosecution and a consequent thorough investigation:

Last week rumors were afloat that a party of eighteen men with their faces blackened came to the wier on Crooked River, in the night time, and cut away the upper part of the works and let the salmon escape up the stream. At first this rumor was considered idle, but to-day it is confirmed by a reliable person from Edes' Falls. It seems the facts are even worse than at first stated. Many of the fish, it is said, were carried off; the most of the others were let out. No resistance was made by those in charge. It does not appear to be much of a conundrum where the party was organized, and it is hoped that sufficient evidence will be secured to bring the perpetrators of this outrage to justice.

Mr. Stanley had visited the wier only the day before. About two hundred salmon were in the pound at the time of the raid. In view of the threats which have been made by certain parties it might have been better to have had a sufficient guard on the wier property prepared for their reception. As it was, there were only three men against eighteen. The affair does not do credit to the "law and order sentiment" supposed to be popular in Maine.

The wier has been repaired and quite a number of fish secured since the affair took place.

M.

North Bridgton, Me., Nov. 7.

A BIG 'UN FROM THE POTOMAC.

On Saturday, October 29th, I was fortunate in catching near Knoxville, Md., a small-mouthed black bass, whose weight, I believe, has seldom if ever been equalled by a Potomac River fish of that species. While still alive it was taken to Mr. Miller's store at Knoxville, and in presence of a dozen people was found to weigh a scant 7 lbs. 1 oz. Neither my boatman, John Leopold, who has been catching bass since they appeared here, nor any one else at Knoxville, had ever seen or heard of as large a bass from these waters. An 8 oz. Leonard rod and a single gut leader did the business. The fish measured 23 inches in length and 15½ in girth back of the gills.

A. F. D.

Baltimore, Md., Nov. 2.

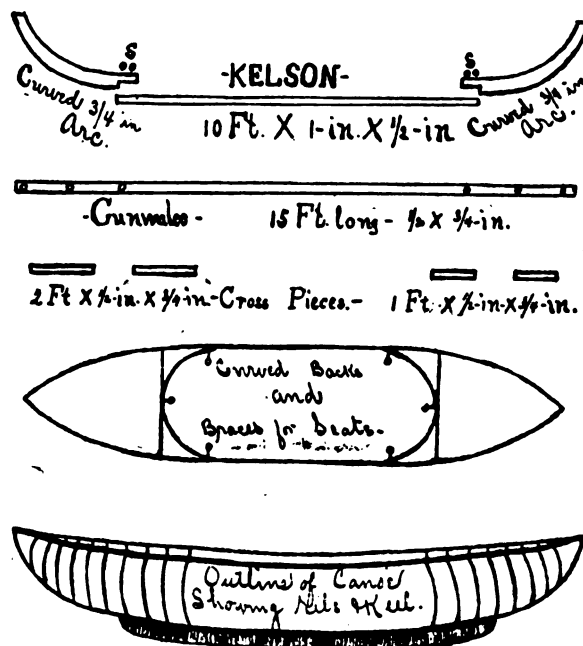
DIRECTIONS FOR BUILDING A CANVAS CANOE.

BY S. M. HARPER.

Very many readers of THE ANGLER have written me personally regarding my communication in the issue of Oct. 22d, entitled "Convenience of Canvas Canoes." I observe also that others have communicated with you, Mr. Editor, in regard to the same subject, so I have thought it the best way to send a full description to THE ANGLER and thus save much labor to myself, while enabling all your readers who so wish to build their own boats cheaply.

In constructing my last boat I procured ¼ of a 4-ft. wagon felloe and ripped it in two parts, which I shaved down to ¾-in. square for bow and stern pieces. These I securely fastened to the kelson by means of two screws, notching the lower end ½ in. to fit into the top of the kelson, and the upper ends to fit the gunwales ½ in. and of proper shape.

The kelson is 10 ft. long and ½ in. x 1 in. square. The gunwales are 15 ft. long and ½ in. x ¾ in. square. I shape a board on one edge 10 ft. long to proper shire for bottom of boat—say 2 ins.—to which I fasten the kelson with six



screws, and then fasten the gunwales to the two curved ends with screws, spreading them apart by means of two cross pieces ½ in. x ¾ in. placed 4 ft. from bow and stern, so as to make the boat about 2 ft. wide. I then put in two similar pieces midway between these and the bow and stern. To make the boat the proper depth—13 ins.—fasten upright pieces from the board in the bottom to the several cross pieces by means of screws temporarily, for after the boat is finished the board and uprights are all to be removed.

For ribs use thin barrel hoops, cheese boxes split into strips an inch wide, or, best of all, get a tough sapling and have it sawed into strips 1 in. wide by ½ in. thick and 4 ft. in length. These can be fastened to the kelson and the gunwale 4 in. apart by small, tough nails ¾ in. long.

Fasten them in the center first and bend them so as to give the canoe its proper shape and size and then fasten to the gunwale, sawing the ends all off even with the same.

You will want 7 yds. of canvas $\frac{3}{4}$ of a yard wide. Cut 2 yds. from this piece and split the part thus obtained from end to end in the middle; then again split these two pieces diagonally from corner to corner, thus making four wedge-shaped pieces. Sew the blunt ends together forming two strips pointed at either end and then sew these strips on the sides of the 5-yd. strip. This makes the canvas of the proper form to cover the frame. Stretch the same over your boat tightly and fasten from end to end with plenty of tacks. Remove temporary frame from inside. Give two coats of oil paint of any shade you wish. Next you must make a keel from a board $\frac{3}{4}$ in. thick, 5 ins. wide and 10 $\frac{1}{2}$ ft. long shaved down to fit. Fasten this with six long screws through the holes in the keelson. Fasten two good barrel hoops to the cross pieces and bend them around to the gunwales for a back to lean against and as a support also. A buggy cushion will do for a seat or any sack partly filled with hay. Paint the canvas *before* the keel is put on. I send you a rough outline of the canoe and its principal parts.

Mechanicsburg, O., October, 1887.

CASTING FROM THE REEL.

Mr. Graydon Johnson, a good fisherman and writer on angling topics, has recently returned from a few months' trip in England, where, among other anglers of note, he met Mr. Marston, the able editor of the *English Fishing Gazette*, and with him, to quote the words of his letter, "exchanged tips on heaving the lead, he casting from the reel, Nottingham style. In this method the guides and reel are on the under side of the rod, which is slung very much as we do, but with two hands. Either the right hand is held above the reel and the left encircles the spool so that the run can be checked with the touch of the tip of the third finger, or else the left hand is above the reel and the right below it, the run being controlled by a touch of the forefinger. Mr. Marston is the happy owner of \$30 worth of an American multiplier; some time ago he exhibited the same to a congregation of anglers and essayed to display its merits when fixed under the rod. Since then it has been a cherished plaything for the baby, who enjoyed seeing the wheels go round. I rigged up the minnow casting rod and reel that I won in the tournament, borrowed a couple of latch keys to serve as a sinker and let fly. In three seconds those keys were roosting twenty feet from the ground in a tree about 110 ft. away. I wish you could have seen Mr. Marston's face when he saw the way that we folks cast. I rather think the baby won't have so much fun with that reel in the hereafter, for Mr. Marston picked the knack of it up very quickly and intends to do a little quiet practicing before he gets up another tournament."

According to Mr. Johnson our friends on the other side are not "in it" when it comes to this sort of casting, but in a recent number of *Fishing* appears the following under the heading of "Hints to Beginners," from the pen of Henry Cafferata, who seems to be an angler of experience and observation:

Most anglers cast off the reel from the left side, but

there are some who cast from the right, and prefer to do so. At any rate, it is well to be able to do both. There are times and occasions when it is difficult to use the left cast. For example, when there is a tree or a high bush in the way, or a bridge, or when two anglers are trolling close to each other, if the right-hand man can throw from the right, it makes matters more comfortable and less dangerous for both. I do not intend to enter into the merits or demerits of the right hand cast. No doubt the cast from the left is the more correct of the two, but certainly the other is perfectly orthodox if it be done properly, for there is a right and a wrong way of doing it.

In casting from the right, let the angler take the rod in his hand in the same way as he would do for the left cast, the right hand at the reel, the left above it. Let him face the water or his mark, then turn to the right by drawing back his right foot, so that his left shoulder faces the mark and he himself stands almost at right angles to the mark, or water. Then let him proceed exactly as I described for the left cast. The action of the left hand is somewhat different. In casting from the left, the left hand throws the rod forward; in throwing from the right, the left hand pulls the rod round more than throws it, but in this it is materially aided by the right hand, which, in the cast from the right, has much, nay more, to do with the throw than the left.

I am not so sure that the correctness of the position of the hands in the right-hand casting will not be questioned by one or two anglers who adopt the following methods: The *right hand* grasps the rod about eighteen inches above the reel; the left holds the butt, below the reel, and the top or edge of the left forefinger is pressed on the revolving edge of the reel.

The position is the exact reverse of that used in casting from the left. Some anglers maintain that they can cast more accurately and more easily from the right by this method than by the one I have described. Much depends upon habit and the way they have been trained; but, strictly speaking, I do not think it is the more correct way of the two, and my view is backed up by Slater, of Newark, for this method necessitates changing the position of the hands twice.

When the cast is made the *left hand* is at the reel, the right holding the rod above it; the cast over, the *right hand* comes down to the reel, the left takes charge of the rod. First change. When the cast is again made the position of the hands again changes. The left goes to the reel, the right above it. Change No. 2. However, it is not a matter of much consequence; I, and, I suppose, most anglers, use both methods though.

There has been at times considerable discussion about which is the correct style of throwing.

SOUTHERN ANGLING NOTES.

B. C. Pacetti, of Halifax Inlet, lately caught with hook and line a jewfish of which the head alone weighed fifty pounds. He had no scales able to weigh the whole fish.

This is *Promicrops guasa*, mentioned by Goode in his "Fisheries of the United States," who states that it grows to the weight of 500 lbs. Like the tarpon, the jewfish makes havoc of rods and lines in Florida waters.

When the President was in Atlanta lately he was invited to go to Florida and as an inducement he was shown a rod and reel with which a big *Terrapin* had been caught, meaning of course a tarpon. The newspaper reporter, not being an ichthyologist, knew nothing of the famous Silver King.

C.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

RUINOUS TO FOOD FISHING AND SPORT.

I notice in the issue of *THE ANGLER* of October 29th a short note from Mr. Francis Endicott on the catching of menhaden by means of steamers and purse nets, in which he says "It is ruinous to all food fishing on the coast as well as fishing for sport."

This point in my opinion is well taken and correct. I have on several occasions, in company with Hon. R. B. Roosevelt, on Great South Bay had an opportunity of witnessing the practical workings of these steamers and purse nets and can from my own personal observations testify to their distinctiveness.

When a school of fish is sighted, barring accidents, which are not very liable to occur, that school is as sure to be captured in its entirety as the fishermen are sure to lower their boats from the steamers and cast their nets around them. With such wholesale destruction going on day after day and year after year there must some time come an end to it. The fishermen have acknowledged to me that the schools of fish are becoming more scarce every year and that there are certain localities which are now practically exhausted. If this is the case now with one or more localities it must be so with all sooner or later and therefore it is merely a question of time when all are so nearly depleted that it will no longer pay to fish them.

If the fishermen would only have a little regard for the spawning season and stop taking the fish for a portion of that period it would be attended with good results and prove of great value to the fishermen themselves, at least in postponing the day of practical extinction; but there seems to be but one idea with the net owners and that is to capture all they can whenever they can, without any regard to previous or future conditions of race or servitude.

In the issue of *THE ANGLER* of September 19th, 1885, I have an article giving my experience on board a purse net steamer fishing off Fire Island, and how the net was operated. The day I was aboard the net took 40,000 menhaden or bunkers as they are commonly called. These were taken in five hauls of the net. In addition to the bunkers I also counted sixteen bluefish and one Spanish mackerel, although there might have been many more, as they were taken aboard by means of a large scoop net hoisted by steam, which took them in at the rate of a thousand fish to a lift.

The striped bass, bluefish and Spanish mackerel, which follow up the schools of bunkers and feed on them, are becoming scarcer continually. I can recall certain grounds where we used to go years ago and make a good catch of bluefish or bass with almost absolute certainty, whereas now if you go there and make a respectable catch you are in uncommon luck.

To the observer everything points toward gradual diminution. The fishermen are able to keep up a respectable

catch by continually making their nets larger and otherwise improving on them and their machinery and also by becoming more skillful in handling them. With the old time devices they would at present be able to make but a scanty showing, if any at all.

SETH GREEN.

ENGLISH NOTES.

BY W. AUGUST CARTER.

(Of the National Fish Culture Association and Secretary of the Midland Counties Fish Culture Establishment.)

A recent attempt was made by the Board of Guardians at Canterbury in Kent to introduce fish dinners into the workhouse, but the result proved unsatisfactory. The paupers complained loudly of the fare as being insufficient for their gastronomic needs, the cooks proclaimed it to be more costly and difficult to prepare than butcher's meat, while the officials generally objected to the effluvia arising from the abused article of consumption. This incident points to the prejudice that exists against the watery creatures in this country where they are rarely partaken of unaccompanied by more substantial fare. The poorer classes consider fish incapable of sustaining vitality, and therefore crave for butcher's meat, ignorant of the fact that when the former is well cooked it is nearly as appetizing and nourishing as the flesh of the higher animals. The truth is, fish are not so satisfactory, and therefore on this account they are considered insufficient in themselves for food. This is a popular error, for fish, although undesirable as a daily article of consumption, might be most advantageously alternated with beef and mutton. I can point to many individuals who are robust and sturdy specimens of humanity fed five days out of the week upon fish. Again, our fishermen present excellent examples of a fish eating community, being robust, hardy and long-lived.

The true cause of fish not being so popular as they ought to be in this country is due to our ignorance of the art of cooking them and to this fact is also due the non-success attending the trial given to fish dinners at Canterbury. In this case forms of different species were placed in the pot and boiled in a superabundance of water. The consequence was that when served up the fish were unpalatable and tasteless, being deprived of nourishment through overboiling. What we require is a better system of cooking fish, for at present we are strangely ignorant of the art. In Germany and other countries the coarsest of fish are rendered appetizing through the cunning manipulation of the *chef*, who by means of his art sends the carp and other coarse fish to the table in a toothsome form. When we have learnt the art of cooking fish they will be regarded in the light of a more popular dietary. Fish have this advantage over butchers' meat, viz.: that they furnish a great variety of food, each species possessing a special flavor of its own, whereas there is a great sameness in a continuity of beef and mutton. For invalids and persons of nervous temperaments fish are unique, being easily digested and capable of supplying a great nerve food. Before fish is condemned at public institutions the authorities should fully investigate the causes of its seeming unworthiness.

SHAD IN THE GREAT SALT LAKE.

Marshall McDonald, in his report of the shad distribution for 1887, as printed in a recent bulletin of the U. S. Fish Commission, says:

The most important experiment looking to the acclimatization of shad in new rivers was made in connection with the hydrographic basin of Great Salt Lake. This inland sea would seem to present all the conditions necessary for the reproduction of the shad under natural conditions. The value that would arise to the inhabitants of that section of the country from the introduction of some anadromous species like the shad in their waters was so evident that it was determined by Professor Baird, the commissioner, to test by an exhaustive experiment the capabilities of these waters to supply the necessary conditions. Accordingly car No. 2, with 1,000,000 fry, was sent to Utah and the fish successfully planted. The deposit was made in the Jordan River, it being deemed better to concentrate all the fish in a single plant than to distribute them in smaller numbers to tributary streams of Utah Lake. It is in contemplation to repeat this work for two successive seasons.

From the rapid increase in the volume of the work of shad distribution it is evident that it will be necessary to increase the efficiency of our distributing service in order to meet the demands that will probably be made upon it next season. This may be accomplished in two ways: First, by the establishment of auxiliary field stations in those river basins which are to be stocked with shad. These stations should be properly equipped to give them a capacity of six or eight million eggs at one time. To these at the proper season a car can be dispatched carrying a full complement of eggs in one shipment, in this way quadrupling the present capacity of the cars in the work of distribution and reducing the cost of distribution per million *pro tanto*. Second, to increase the capacity of the producing stations so as to enable us to take care of all eggs at these stations until hatched. This would necessitate an increase in the number of cars for distribution; one or two at least in addition would be needed to provide for the anticipated increase in the volume of this work.

The Albany *Weekly Times* says that at Lake Hopatcong, a few days ago, Albert D. Winfield noticed a large fish, apparently in great trouble, swimming on the surface of the water. He passed a net under the fish, and it proved to be a black bass of 3½ lbs. The fish had chased a sunfish and caught it, but the sunfish had erected its dorsal fins and positively refused to be swallowed, and the fins fastened in the jaws of the bass. The sunfish could not extricate itself, nor could the bass eject it.

A letter from the East to the *American Grocer* represents the mackerel catch up to the current month as the smallest on record. Stocks were never so light. Boston, Gloucester, Wellfleet, Provincetown, and all the outports will not aggregate 10,000 barrels against the usual stock of 150,000 to 200,000 barrels. The entire catch last year was 74,887 barrels, against 324,704 in 1885. This year the catch is 72,330 barrels, the smallest return in six years.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

PERCH AND STRIPED BASS.

I left home on Monday, the 17th day of October last, at 8.30 A. M. and after riding about three hours on one of the Jersey railroads arrived at station —, where I left the cars and took a wagon, which was there by appointment, and was driven thirteen miles to the house of a farmer, who lives within a quarter of a mile of as good striped bass grounds as there is in this country.

After taking a good jorum of mellow old applejack and eating a fine old-fashioned country dinner, I concluded to spend the balance of the day among the white perch, so I got a few minnows and some dunghill worms, of which perch are sometimes very fond, and started for a gravel bar, at the mouth of a small creek that empties into the bay. I fished there until sundown and took thirty-seven white perch running from a half to three quarters of a pound, and nine small striped bass, some of which we had for breakfast.

The next morning, after getting a good supply of soft shell crabs and fiddlers, I started for one of my old points about a quarter of a mile from the house and fished about three-quarters of the flood tide and about half of the ebb, taking forty-one striped bass running from two to five pounds, one of the lot weighing six and three-quarters and one a little over seven. The next day I changed my fishing ground (as I think it bad policy to fish two consecutive days on the same ground, provided you have others just as good, as too much fishing is apt to make them shy) and went to Sunken Sage Eddy, where I fished all day. The water there is not over six feet deep and very swift. I took there sixty-nine bass of about the same size as those I got on the previous day. The next day I went to the deep hole, where the fish, as a general thing, are not plenty but larger, and fished nearly the whole flood, taking but nine fish, all of good size. I was about leaving when I struck a nine-pound fish that gave me good play for about fifteen minutes. Encouraged by that I fished the ebb until it was time to leave and took thirty-one more good ones. Deep holes are the best, as bass always seek deep water after they have done feeding in the shallow water near the shore.

On the flood tide the next day I took my light rod and rigged my line with two hooks and a float and started again for my favorite perch ground. It was a good day for fishing, just about wind enough, and I fished until 3 o'clock, taking ninety-three white perch (many of them weighing over a pound) and eleven small bass. I left in the morning for home, where I arrived in good order and condition. I will give them another turn the latter part of this month, when the weather will be colder and the fish much larger. I shall bait then with small chub, which the boys catch in the fresh water creeks, as crabs will then be scarce.

STRIPED BASS.

Philadelphia, Pa., November 4.

GAME LAWS OF THE STATE OF NEW YORK.

We are indebted to the courtesy of Mr. H. H. Thompson, Secretary of the New York State Fish Commission, for the following general synopsis of the game laws of the State as published by direction of the Commissioners of Fisheries, November 1, 1887:

FISH.

Speckled Trout and Brook Trout.—The open or lawful season is from April 1 to Sept. 1, except in the counties included in the Forest Preserve (which are Clinton (except towns of Altona and Dannemora), Franklin, St. Lawrence, Essex, Warren, Herkimer, Hamilton, Lewis, Fulton, Saratoga, Washington, Greene, Ulster and Sullivan), wherein it is from May 1 to Sept. 15, and in Stenben County, wherein it is from May 1 to Aug. 1. Cannot be caught except with hook and line, except in Lake Ontario, Niagara River and wholly private waters. No net, or seine, or set line, or set pole can be used in waters inhabited by them, except in Lakes Ontario and Keuka under certain restrictions. Cannot be caught through the ice, except in Lake Ontario, Niagara River and wholly private waters. Cannot be caught for stocking public or private waters, except from Lake Ontario. Cannot be disturbed on their spawning beds, except in Lake Ontario. Cannot be transported from the Forest Preserve, except from May 1 to Sept. 1; nor then unless accompanied by the owner. All nets, seines and other forbidden devices are declared to be nuisances and contraband, and may be destroyed with impunity by any person at any time. Intentional catching of trout less than six inches long is prohibited, and when caught they must be returned to the waters they were taken from, with due care not to kill or injure.

Salmon or Lake Trout.—Same as speckled trout, except that in the Forest Preserve and in Lake George the open season is from May 1 to Oct. 1, and in the inland lakes of the State from April 1 to Oct. 1, and that they may be transported from the Forest Preserve from May 1 to Oct. 1, accompanied by owner.

California Trout.—Same as speckled trout.

Brown Trout.—Same as speckled trout.

Land-locked Salmon.—Same as lake trout.

Black Bass and Oswego Bass.—The open season is from May 30 to Jan. 1, with the following exceptions: In the St. Lawrence, Clyde, Seneca and Oswego Rivers, and in Lakes Ontario, Conesus and Black Lake, in St. Lawrence County, it is from May 20 to Jan. 1. In the waters of Lake Mahopac, or of Columbia County, Schroon Lake or River, or Paradox Lake, in the counties of Essex and Warren, Friend's Lake in Warren County, and Skaneateles Lake, in the counties of Onondaga and Cayuga, Lake Erie and Niagara River, above Falls, American side, it is from July 1 to Jan. 1. In Lake George, or in Brant Lake in Warren County, it is from Aug. 1 to Jan. 1; In Lake Champlain it is from June 15 to Jan. 1; in Oneida Lake, May 30 to March 1. Cannot be caught, had in possession or sold of less than half a pound weight, or less than eight inches long. May be had in possession or sold from May 20 to Jan. 1, except in Erie County, where the season is from July 1 to Jan. 1. The large-mouthed black bass of North Carolina and Virginia, locally known as chub, may be had in possession and sold in New York City at any time, provided they are lawfully taken from waters outside of the State.

Mascalonge.—The open season is from May 30 to Jan. 1, except that in the St. Lawrence, Clyde, Seneca and Oswego Rivers, and in Lakes Ontario, Conesus and Black Lake, in St. Lawrence County, it is from May 20 to Jan. 1; in Lake Erie and Niagara River, above Falls, American side, it is July 1 to Jan. 1; in Lake Champlain, from June 15 to Jan. 1; in Oneida Lake, May 30 to March 1.

Pickereel.—No closed season except that they cannot be caught or killed in Lake George between Feb. 15 and July 1, or in Lake Champlain from Jan. 1 to June 15.

Pike-perch or Wall-eyed Pice.—The open season is from May 30 to Jan. 1, except that in Erie County it is from July 1 to Jan. 1; in Oneida Lake, May 30 to March 1. May be sold in New York City same as the North Carolina and Virginia bass.

Bullheads.—No restriction, except that they cannot be caught in Lake George or tributaries between April 1 and July 1.

Fresh Water Striped Bass.—Weight and length restriction same as black bass, and can be had in possession or sold only from May 20 to

Jan. 1, except in Erie County, wherein the season is from July 1 to Jan. 1.

Salt Water Striped Bass.—No restriction, except as to size, which is same as with black bass.

Shad.—The open season in the Hudson River is from March 15 to June 15; cannot be caught from sunset Saturday to sunrise following Monday above northern boundary line of Westchester County.

GAME.

Moose.—Absolute prohibition.

Deer.—The open season is from August 15 to Nov. 1, but not more than three can be killed or taken alive by any one person during that period. Cannot be killed in Suffolk or Queens Counties within five years from April 24, 1886. Hounding allowed only between Sept. 1 and Oct. 5, but prohibited in St. Lawrence and Delaware Counties at any time. Cannot set trap, spring gun or other device for them. Cruising is forbidden. Cannot enter their yards to kill or capture. Cannot kill a fawn or have in possession its carcass or skin. Transportation prohibited, except from Aug. 15 to Nov. 15, when it is limited to one carcass, which must be accompanied by owner. To be sold only from Aug. 15 to Nov. 1, except that fresh venison lawfully killed, in the open season, and not transported contrary to law, may be sold from Nov. 15 to Dec. 15.

Hares and Rabbits.—The open season is from Nov. 1 to Feb. 1. Cannot be killed or hunted with ferrets, except in nurseries or orchards and adjoining forests or fields, by the owners or occupants.

Squirrels.—The open season is from Aug. 1 to Feb. 1.

Wolves and Panthers.—State pays thirty dollars bounty for grown wolf, fifteen for pup wolf and twenty for panther.

BIRDS.

Ducks, Geese and Brant.—The open season is from Sept. 1 to May 1, except that in Long Island waters it is from Oct. 1 to May 1, and in Chautauqua County, where it is from Sept. 1 to Feb. 1. Cannot be killed between sunset and daylight, or with any net, device or instruments other than guns fired from the shoulder. Unlawful to use floating batteries, machines or other devices concealing the gunner, or any decoy or bough house more than twenty rods from shore, except in Great South Bay, west of Smith's Point, Peconic and Shinnecock Bays, Lake Ontario, River St. Lawrence and the Hudson, below Albany. Cannot be shot at from steam or sail vessels, except in Long Island Sound, Gardiner's and Peconic Bays, Lake Ontario and Hudson River, below Iona Island. The last two provisions apply to all wild fowl.

Quail.—The open season is from Nov. 1 to Jan. 1, except on Robin's Island, where it is from Oct. 15 to Feb. 1. No net, trap or snare can be set for them. Cannot be killed in Niagara County for three years from May 17, 1886. May be sold in January, if lawfully killed and transported.

Woodcock.—The open season is from Aug. 1 to Jan. 1, except that in Oneida and Delaware Counties it is from Sept. 1 to Jan. 1. Cannot be taken out of Chautauqua and Cattaraugus Counties for sale or trade.

Ruffed Grouse.—The open season is from Sept. 1 to Jan. 1, except that in Queens and Suffolk Counties it is from Nov. 1 to Jan. 1. Cannot be killed in Niagara County for three years from May 17, 1886. Netting prohibited. Same restriction in Chautauqua and Cattaraugus Counties as to woodcock.

Pinnated Grouse.—The open season is from Sept. 1 to Jan. 1. Netting prohibited.

Spruce Grouse.—No close season. Netting prohibited.

Shore Birds.—Bay snipe, sandpiper, shore bird and plover, cannot be killed or had in possession in Queens and Suffolk counties from January 1 to July 10, nor rail birds or meadow hens from January 1 to September 1. Snipe and plover cannot be taken out of Chautauqua or Cattaraugus counties for sale or trade.

Song Birds and Wild Birds.—No birds of song or wild birds, other than certain enumerated game birds (except the English sparrow) can be killed or caught, in any manner, or at any time, nor can any part of such birds be bought, sold, or had in possession, nor can their nests or eggs be taken or destroyed. The taking of birds and their nests and eggs for scientific purposes provided for in Chap. 427, Laws 1886. The crow, hen hawk, owl and blackbird are not protected. Robins and blackbirds may be shot on Long Island and Staten Island from Nov. 1 to Jan. 1. It is a misdemeanor to intentionally give food or shelter to the English sparrow.

Fishing, shooting, etc., on Sunday is prohibited. Stocking the Adirondack waters with any fish except of the salmon and trout families prohibited. Drawing off water to catch fish prohibited. Pollution of water prohibited. Fishing within eighty rods of State Fisheries and Fishways prohibited.

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TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
The Carp from an Angling Standpoint. Nov. 10, '81.
Deep Trolling in Fresh Water. Dec. 21, '81.
Chub Fishing with the Fly. Dec. 21, '81.
Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '83.
Modern Tackle and How to Use it. April 8, 15, 22, 29, May 6, 20, '82.
Holding Hard and Killing Quick. April 1, 29, '82.
Catching Shad with the Fly. April 15, '82.
Basket Straps, Shoes, etc. April 22, May 5, June 3, '82.
Baits Used in Salt Waters. May 6, '82.
When to Strike. May 20, June 10, July 15, '82.
Trout of the Yosemite. May 27, '82.
Trolling for Lake (Salmon) Trout. May 27, '82.
The Reel, Gaff and Rod. June 3, '82.
Trotting for Bluefish. June 17, '82.
Tackle and Traps. Aug. 12, '82; March 15, '84.
Light vs. Heavy Rods. Aug. 26, '82.
Waterproofing Fish Lines. Nov. 18, '82.
Trouting in the White Mountains. Dec. 2, '82.
What is a Pike? What is a Pickerel? Illustrated. Dec. 16, '82.
A Sole Leather Bait Box. Illustrated. Dec. 23, '82.
Striking and Playing a Fish. Dec. 30, '82.
The White Perch. Illustrated. Dec. 30, '82.
A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
A Treatise on the Black Bass—Habitat, Modes of Capture, etc. Illustrated. Feb. 3, 10, 17, 24, '83.
T^rawberry Bass. Illustrated. Feb. 17, '83.
A ^{rt}icle on the Pike—Habitat, Tackle Used, etc. Illustrated. March 3, 10, 17, 24, '83.
The Reel—Its Place on the Rod. March 24, April 14, June 16, '83.
The Atlantic Salmon, Scientific and Popular Description—Habitat and Capture. Illustrated. March 31, '83.
Minnows as Bait. Illustrated. April 7, 14, 21, '83.
Catching Flounders. Illustrated. April 7, '83.
The Trout of Maine Waters. April 14, 21, 28, May 5, '83.
The Trout Streams of the United States and How to Reach Them. April 14, '83.
A Serviceable Fishing Boat—How to Build it. Illustrated. April 21, '83; Dec. 20, '84.
Making a Split Bamboo—Amateur Work. April 28, '83.
Varnish for Rods. May 5, '83.
A Treatise on the Brook Trout—Habitat, Habitat and Capture. Illustrated. May 12, 19, 26, June 2, '83.
The Colorado Mountain Trout. May 12, '83.
A New Minnow Pail. Illustrated. May 12, '83.
The Striped Bass—Rock Fish—Description, Modes of Capture, etc. Illustrated. May 26, June 2, '83.
The Split Bamboo—Its History, etc. May 19 and June 2, '83.
A Treatise on the Bluefish and Weakfish. Illustrated. June 9, '83.
The Smelt of Sebago Waters—Description, Capture, etc. Illustrated. June 16, '83.
A Treatise on the Sheephead. Illustrated. June 16, '83.
The Lake Trout—Where, When and How to Take Them. Illustrated. June 23, 30, July 7, '83.
The Kingfish and Bonito—A Practical Essay. Illustrated. June 23, '83.
A Treatise on the Black Drum and Spanish Mackerel. Illustrated. June 30, '83.
How to Play a Black Bass. June 23, '83.
A Treatise on the Blackfish and Flounder. Illustrated. July 7, '83.
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Amateur Rod Making. Illustrated. July 21, Sept. 29, Oct. 13, Oct. 27, Nov. 17, Dec. 22, '83; Jan. 5, 12, 19, 26, Feb. 2, 9, 16, 23, '84; Jan. 3, 10, '85.
The Eenshall Rod—Dimensions, etc., given by Dr. James A. Henshall. July 21, '83.
A Treatise on the Lafayette (Spot) and the Menhaden. Illustrated. July 28, '83.
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Anglers' Knots. How to Tie Them. Illustrated. April 8, May 6, 13, '82; Aug. 18, Sept. 8, Oct. 6, '83.
By-laws of a Fresh Water Club. Aug. 18, '83.
A Treatise on the Hogfish—Salters' Choice. Illustrated. Sept. 1, '83.
A Treatise on the Pike-perch or Wall-eyed Pike—Habitat, Habitat and Mode of Capture. Illustrated. Sept. 8, 15, 22, 29, Oct. 6, '83.
Dressings for Flies. Sept. 29, '83.
The Baby Trout—Scientific and Popular Description; How they are Caught, etc. Illustrated. Oct. 13, Oct. 30, '83.
Rod Joints. Illustrated. Oct. 20, Nov. 10, '83.
Description and Review of the American Anglers' Casting Tournament. Oct. 21, 28, '82; Oct. 20, 27, '83; Oct. 18, 25, Nov. 1, '84; Oct. 24, 31, '85; May 28, June 4, '87.
Fly-fishing for Trout. Oct. 27, '83.
Fishes of the East Florida Coast—How, When and Where Taken. Illustrated.
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The Red Grouper. " 17, "
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Reason and Instinct in Fishes. Nov. 24, '83.
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(Patented May 4th, 1886)

With the execution of our Patent Compensating reels and section bamboo rods which we introduce to the public, this fly, invented by Mr. Wakeman Holberton, is unquestionably the greatest and most radical improvement in fishing tackle ever made.

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- 3d. Any of the present favorite combinations of color and form can be tied in this way. Thus, those who believe that fish are attracted by particular colors or forms of fly, can have their old patterns in the patent style.
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We take this method of notifying dealers and fly-tyers that we shall prosecute any infringement of our rights under this patent to the fullest extent of the law. Our course, in regard to the protection of our patents and copyrights, is known to some people. We assure such people that the same old course will be pursued by this firm.

We add a few extracts selected from the numerous and unanimously complimentary press notices of this fly. We could add many letters from well known and expert anglers if we were willing to drag the names of private gentlemen into our advertisements.

SCIENTIFIC AMERICAN.—"When so arranged the wings offer less resistance to the air in casting. As the fly is slowly drawn toward the angler the wings expand, and give a fluttering, life-like motion, much more alluring to the fish."

FOREST AND STREAM.—"... more like a natural insect than the old patterns whose wings close when being drawn through the water. ... Great merit lies in its superior hooking qualities. A fish cannot nip at the wings or tail, but swallows the hook before any part of the fly."

AMERICAN ANGLER.—"There is no question as to the killing qualities of this fly. All fish are attracted more by the action of the fly than by color or form. ... This fly will certainly, when drawn against the current or over a placid pool, skim the surface with an attractive wake, and its expanded wings will create a fluttering motion, assimilating the struggles of a live insect. ... We are told that few fish are lost by those who use this fly. We do not doubt it."

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A Weekly Journal of Fish Fishing & Fish Culture.

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SINGLE COPIES, TEN CENTS.

{ NEW YORK—CHICAGO, NOVEMBER 19, 1887. }

{ VOLUME XII, NUMBER 21. }

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—182 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Bouverie St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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OUTING FOR DECEMBER.

December *Outing* produces William H. Gilder's authoritative summary of the best means and methods of Arctic travel. His information is based on thousands of miles of actual Arctic voyaging, and the recital is interspersed with dramatic incidents of hair-breadth escapes and the queer straits to which a traveler is put when performing a journey over ice, with transportation by means of dog and reindeer sleds. Captain R. F. Coffin treats us to another inimitable yarn of a sailor's life, and quaintly moralizes in the peculiar vernacular of the "Old Salt" about the peculiar philosophy one meets in the fore-castle. The story is really charming reading.

THE DESECRATION OF ART.

The warning given us in the following letter seems to demand attention in view of the arrest recently of a respectable firm of art dealers in this city. The danger seems to us remote, but we are none the less thankful for a timely hint:

EDITOR ANGLER:—I learn from an "Announcement" which appears frequently in your paper that you are preparing a work of marked importance involving the portraiture of the fishes of North America by some process of chromo-lithography. You distinctly state that care will be taken "not only to give the coloration in life, but also with distinctness the specific markings, including the exact number of spines or rays in the fin construction."

Your attention should be called, I think, to the fact that the careful and accurate delineation of females in pictures designed for sale and publication, when the "coloration in life, the "specific markings," the "spine," etc., fairly well represent one of God's creatures, is prohibited by a law the execution of which may at any time be entrusted to an indecent and foul-minded person.

It is often difficult for scientists to distinguish the sex of fishes, but any prurient person who can discover nasty suggestions in the grandest works of art would doubtless be able to find gratification of his morbid taste for bestiality in building in his filthy imagination some obscene suggestion out of the portrayal of a female fish—possibly picturing it in his own polluted fancy as a mermaid or one of the fabled Lorelei syrens of the Rhine. Curiously enough, too, if the execution of this law (a good one in the hands of a good man) should ever fall into the hands of such a lecherous conceiver of foul suggestions and filthy imaginings he could not only have you arrested but he could also, through the columns of the daily press, parade before our innocent wives and children the disgusting lewdness of his abnormal conceptions.

BEN BENT.

Jay Gould has gone abroad on an angling tour. He has been fishing for Wales and plaice in London and is understood to be going to the Continent for Holland suckers, of which he is very fond.

NOT TO BE CAUGHT—*Epoch*: Young Mr. Sissy (to his pretty cousin)—In your matrimonial fishing, Maude, if you should make a catch like me, what would you do?

Maude—Throw it back in, Charley.

LAWLESSNESS IN MAINE.

The efforts of Hon. E. M. Stillwell, the Maine Commissioner of Fisheries and Game, to maintain the salmon weir at Edes Falls against armed and organized poachers seems an undertaking quite dangerous enough to be exciting. It is difficult to understand the feeling against fish culture which finds expression in shotgun lawlessness and wanton destruction of property, but it appears that the weir was attacked by seventeen men with blackened faces, one of whom stood over the keeper with a shotgun while the others demolished the works. It is a somewhat curious fact that the men have not yet been arrested and in answer to a representative of the *Press* he said that no warrants had been sworn out and he was not prepared to say that any would be. Of the damage done he says:

"It is true that they have destroyed our weir and done our work at Edes Falls great harm. We had gathered in that weir one hundred and forty fish, from which we were intending to take the eggs. They destroyed the weir and let them loose. We have since recaptured about twenty-five. They did not destroy any eggs, as they were all at the hatchery, two miles away. But the liberation of the fish and the destruction of the weir will seriously interfere with our season's work. Last year we got 750,000 eggs for use in our hatchery; we expected to get 1,000,000 this year. Instead of that we shall now get only about 250,000. We expended \$1,400 last year in establishing the works and expected to do a great deal this year towards stocking Sebago Lake. This will be a great set-back for us. Last spring we put over 700,000 young salmon fry back into Sebago waters, to begin the replenishment of its exhausted waters. We were planning to do better this year, but those scalawags have somewhat interfered with our plans."

FABLES FOR FISHES.

THE WILY OLD TROUT.

Once upon a time a Wily old Trout was giving object lessons to a Kindergarten School of small fry with the par markings, in a mountain brook.

"The Angle Worm," said the old Trout, sailing slowly towards the object of his remarks, who was wriggling uncomfortably midstream some short distance away, "the Angle Worm is a succulent and nutritious article of diet. I will proceed to illustrate the method of its capture."

But in the meantime an impatient young trout had seized the worm and was immediately yanked in out of the wet by a patient Angler near by.

"Observe the effects of Greed and gross feeding," said the Wily old Trout calmly. "I was about to caution you against indecent haste in yielding to the lures of the fisherman, which frequently take the form of the Angle Worm. Now that fly floating on the surface of the water yonder is a much more delicate morsel, and free from all danger. I will immediately gather him in for your edification."

Saying which the Wily old Trout, with a graceful upward motion, intercepted the fly and swallowed him—whole.

But the fly in question, being composed of fur, feathers, tinsel and steel wire, proved exceedingly indigestible, and the Wily old Trout finally ornamented the frying pan side by side with his impatient pupil, while the school of small fry proceeded to the election of another kindergartener.

MORAL: You know how it is yourself.

GUY HERRN.

LIEUTENANT HENN ON AMERICAN SPORT.

Lieutenant Henn, of the *Galatea*, whose interesting account of Florida fishing, written for *THE ANGLER*, appeared last season, is reported as having written the following for the London *Field* regarding yachting and yachtsmen in America. Speaking of Americans he says: "Their ordinary coasting schooners would give many of our cruising schooner-yachts all they could do to beat them, and most of the Gloucester fishing schooners, to say nothing of the pilot boats, can leave most of our cruising yachts out of sight. The average American cruising yacht is, I think, kept in better order, with fewer men in proportion to her size and spread of canvas, than ours are. The discipline on board is better and the vessels are very much faster. This last is in some measure due to the fact that they carry more canvas in proportion than our cruisers do, and as a rule their sails are better cut and set. But taking them all round, our cruising vessels are superior as regards accommodations below. The new type of centerboard schooners and sloops ought to be pretty well known over here by this time, so that it is needless for me to say more, except that all this talk about their being unseaworthy vessels is sheer nonsense. Under certain conditions of wind and weather the *Genesta* or *Galatea* might perhaps prove dryer and easier. But for speed, especially to the windward in ordinary regatta weather, there is no question in my opinion of their superiority to any thing we have at present. Any one who is called on to design a keel boat to beat a keel boat which, in addition, carries a centerboard, as all Burgess boats do, will have a pretty big contract on hand, and a failure is more likely than success."

LIVELY FISH.

There was a certain character in one of our country towns who was noted more for the various means to which he resorted to earn a living than for his veracity. At one time it happened he was peddling fish, and his cry summoned a very particular old lady to the side of the wagon. "Are these fish fresh?" she asked, viewing the fishy representatives with suspicion. "Yes'm; caught this very morn'," was the reply. "Are you sure!" she continued, giving the load sundry pokes. "They all seem to be dead." "Dead?" echoed the vender—"dead? Yes'm, they are dead. They were so lively when I left home that I had ter kill 'em to keep 'em from jumpin' out'er ther wagon."—*Harper's Bazar*.

ALL ROUND AMERICANS.

"Black Bass" remarks of the following that it is a "frank admission:"

In a leading editorial the London *Times* of October 1 remarks: "When an American devotes himself to a task of practical skill he is apt to be hard to beat in it. Americans have not so many outdoor pursuits as we have, but such as they have they take very seriously. They have given us the best fishing rods and their skill in casting the fly would put our best anglers on their mettle. They can shoot and they can ride in their own way, as well as the best of us, as the 'Wild West' has shown. We can hold our own in rowing, but they beat us in sailing. They are beginning to compete with us in horse racing and in trotting matches they have no rivals. They are nowhere beside us in cricket, but their skill in baseball, a game which has a science of its own, is marvellous."

FOR THE AMERICAN ANGLER.

FIRESIDE FISHING.

TO R. B. F.

We sit at night, my friend and I,
 Before the fireside's cheerful glow,
 And while the snow-clad hours glide by
 We talk of summers long ago.

Of many a rattling buckboard ride,
 Of many a toilsome mountain tramp,
 Of laugh and jest and song beside
 The watchfire of the forest camp.

Of mighty strings of trout and bass,
 Wonder of envious village folks;
 Of queer mishaps that came to pass,
 Basis of time-worn, threadbare jokes;

We con o'er many a jovial trip
 On brook and stream and woodland tarn,
 And close, unbroken fellowship
 Shines through each well-remembered yarn.

With lowered voices we recall
 Old friends whose angling days are o'er,
 Who lie beneath the graveyard's pall,
 Companions of the Rod no more.

Yet, though the gray is in his hair *
 And youth has bidden me good bye,
 Good days we still expect to share
 On lake and stream, my friend and I.

And when grim death the drag puts on
 The reel of life for him or me,
 The one that's left the one that's gone
 Shall hold in fragrant memory.

Mayhap old Charon will be kind
 And, ceasing all unhandsome tricks,
 Let two old angling cronies find
 Good fishing in the River Styx.

GUY HEENE.

A FISH YARN OF FIFTY YEARS AGO.

"It was about fifty years ago," said Dr. J. M. Kendall, of Bowdoinham. "I was a youngster and playing on the bank of the Kennebec. I never shall forget in my life how neatly I saw a crane get a pickerel dinner. They were driving logs down stream. I watched a crane acting sort of funny standing perched on one of the logs near the shore. I made up my mind to see what it was about, and hid in a clump of bushes. The crane had a bug in his bill and he kept dropping it into the current till it floated past him and then grabbed it again and repeated the same performance. I couldn't think what it was trying to do. He looked to me as if he was going to sleep. The old fellow kept the bug floating in front of the log for half an hour, when, all of a sudden, a big pickerel came up to the surface and made a dive for the bait. The pickerel was down the crane's throat in less than a second and Mr. Crane flapped his wings and flew away. He took the bug in his bill, though. They look sleepy enough, but they know more than a good many people—how to get their bread and butter."

RAINBOW TROUT FOR SALE.—Five thousand genuine McLoud River rainbow trout, eighteen months old, averaging seven to nine inches long, in prime condition. Will be sold if applied for soon. Address J. O'NEILL, Superintendent, South Side Sportsman's Club, Oakdale, L. I.

CRANKY CANOES, KYACKS AND MATHEMATICS.

BY SCULLS.

The theory of capillary attraction is one of the most difficult in physics and can only be completely treated by mathematical analysis.—*Colange.*

I am not going to try to split hairs, but I am going to try to thank Mr. Harper, of Mechanicsburg, Ohio, for giving me lessons in the theory and practice of navigation, in the utility of a canvas canoe and in capillary attraction.

Where does the capillary attraction come in? Just wait a bit. A horse has his tail at the latter end.

Charles Heber Clark (sometimes "John Quill" and sometimes "Max Adeler" and sometimes "Charlie") won the grand prize by inventing numerous methods of towing boats along "De Witt Clinton's big ditch," the Erie Canal, but he failed to realize the irresistible power of capillary attraction.

That's just where Brother Harper took Brother Clark "out of the hurly burly" into another one.

I am glad to find some one ready and willing to speak a good word for the canvas canoe. (I notice that there are others of the same mind).

Of a certainty a canvas canoe can be made light, comfortable, safe and fairly serviceable at a less cost than will pay for a box of good cigars or a meerschaum pipe.

I have tried numbers of them and have been pleased with all but one.

That was the one which insisted that I had launched it wrong side up, and when we came to argue the point, shipped me, or rather unshipped me, consigned to the bottom of Saylor's Lake.

Having carried its point, it bobbed up and down on the rippling waves in the glinting rays of the early morning sun, put the thumb of its right hand to the end of its sharp nose and waved its fingers in the circumambient air, shouting: "Now you chump, swim for it or sink."

(Wait a moment. Looking back over this, I rather like "rippling waves" and "glinting rays" and "circumambient air." They seem like old friends and I like old friends.)

I was a trifle in arrears in my life insurance premiums and had no intense desire to realize anyhow, so I concluded not to sink if I could help it, so I swam, but that new canoe knew how to express its meaning even if it had to speak in a silent sign language.

Perhaps that canoe laughed. I know that the assembled multitude upon the banks of the lake did, and I know that I didn't.

When I came ashore I quoted from that dreary play, "The Stranger," the only bright thing in it:

"No, not drowned, but very wet."

By the way, some other fellow said that before I had a chance, but I will let it go and trust to luck.

The crankiest craft that it was ever my good fortune to conquer came from Ivigtut with other outlandish—I mean Greenlandish, products—chiefly cryolite, Esquimaux and decidedly fishy smells.

When I described its construction to Mrs. Sculls she exclaimed: "Why, that's a horrid waste!"

Her allusion was of course to the sealskins that were

stretched as "tight as a drum head" over the roughly constructed wood and bone frame, when they would have made such "a love of a cloak."

It was with fear and trembling that I put my legs through the hole in its deck—a hole about the size of the end of a nail keg—and with more fear and trembling that I pushed out into the stream.

The earth revolves on its axis once in twenty-four hours.

An Esquimaux kyack can beat the world.

Bucks County farmers' wives used to bake bang-up "turn-overs," but the denizens of the regions of the "midnight sun" are *facile princeps*—an easy first.

A kyack turns over fourteen times in twenty-two minutes. I have the documents to prove it.

But civilization is not played out. Is it to be supposed that the "vice-coxswain of the club," the alleged best "bow oar" at the "house," proposed to acknowledge that he couldn't navigate that whirly-gig as well as one of those smoke-dried, fur-clad lumps of blubber, that swelter in a temperature that would freeze mercury? Oh! no.

That sealskin craft was conquered. I *veni vidi vici*-ed, but—well, I always did like a swim.

To two such boats as have been alluded to, it does not need a four-horse power engine to tow them; a smaller engine would do this work, but whatever the motive power, there must be some way to apply the "motor" to the thing to be "moted."

Now I am getting back into Science, with a big S, and feel that I must "take it up tenderly."

Premises—*capillus*, a hair—Latin.

fiskr, a fish—Icelandic.

bōt, a boat—Sanskrit.

After having carefully prepared a number of strands of twisted horse hair—four to the strand and testing their strength, "which, pardon me, I do not mean to read"—an intricate mathematical problem seems likely to keep me awake all night. After all, perhaps I had better read it, being over persuaded, as Anthony was, and having tried a number of carefully twisted strands of four horse hairs and failed to attain a resistance of quite two pounds.

If a four-pound *fiskr* fast to a No. 4 *capilla* line will tow a first-class canvas *bōt* with friend Harper therein, how long will it take two men to do the same piece of work in three days?

I can only account for the strength of that tow line by falling back on the theory of capillary attraction.

WESTERN PLUCK EXEMPLIFIED.

A circular from Messrs. R. J. Douglas & Co., dated September 22d last, announces the burning of their large boat-building factory at Waukegan, Ill. The communication, however, states that their warehouse, containing a large stock of boats for immediate delivery, was saved. "Our builders," they add, "are now at work in temporary buildings, and we shall proceed at once to build an entirely new factory, fitted out with the most modern machinery, that will give better facilities than ever for turning out fine work and in greater quantities. Meanwhile, kindly remember, as already stated, that we have a good stock of boats on hand and are again prepared to turn out order work on the shortest notice. We thank the public for their liberal patronage in the past and assure them that, although we have lost our factory, we have lost neither our energy nor enterprise, and our misfortune will, we trust, only act as a stimulant to further please our customers and increase our trade."

THE GREAT LOST LAKE.

"Adirondack" Murray, writing to the *Boston Herald*, proposes to himself a voyage of discovery in search of the great Misstassini:

The greatest curiosity of American geography is this. That there is a large lake within 500 miles of the city of Quebec, which was visited by a learned white man two and a half centuries ago, and was described by him as a lake of such commanding size as to rank among the largest in the world, and yet, strange to say, the geographers of the States and Canada know nothing of it, and the maps of Canada either give no hint of its existence or only a partial and an altogether imaginative tracing of its shore line. Can there be anything funnier imagined than to picture the Geographical Society of Quebec—a most learned and august body, doubtless—debating the possible existence and extent of this vast body of water, by common supposition by far the largest in the Dominion, and entertaining each other with random guesses in relation to it, when a month of earnest exploring effort on the part of any energetic member might give to their library an accurate description of it? I refer, of course, to the lake known as Misstassini. Among Canadians Lake Masstassini is more than a lake; it is almost a political issue. You hear it spoken of among all classes and everywhere. All manner of assertions are made about it. You hear the most contradictory opinions expressed. Some say it is only some hundred miles in length; others assert that it is as large as Lake Superior. One man will tell you that Misstassini has been surveyed by a governmental party, and that he will find the report at Ottawa and send it to you. Another—very likely a government official himself—will declare that the report is a fraud; that no survey has ever really been made of the actual lake, and that the Government was swindled by the man who made the report. A member of the Geographical Society of Quebec called upon me the day I left the city for the north and said: "I have called to express the great satisfaction I feel that you are going to try to reach Misstassini. I doubt if you can get through with so late a start; but if you do, you will do a great service to geographical knowledge and put all scholars under obligations to you. If you fail to reach the lake this fall, you will have obtained much valuable knowledge of the north country, and so be able to do it next summer more easily. We all wish you God speed." A few minutes later a Canadian hailed me on the streets and exclaimed, as he shook my hand: "Going to Misstassini? Why, my dear sir, there is no such lake. It is all a myth, an old Jesuit yarn. But if you are bent on burying yourself in those Arctic swamps, bring me a black fox skin when you come back and I will give you \$100 for it." And he passed on laughing. The above gives you, reader, a fair idea of current Canadian opinions touching Lake Misstassini, and will, perhaps, quicken your curiosity to learn all you may concerning it. Therefore, I will give you a history of the Misstassini question by telling you all that men know about it. This, then, is the record:

The first white man that ever visited the lake was a Jesuit missionary, Pere Charles Abanel. In 1672 this brave explorer for Christ's sake, seeking souls to save, pushed up the Saguenay, crossed the sixty-mile portage from Chicou-

timi to the Great Discharge, traversed Lake St. John, and, bold with holy zeal, struck bravely into the vast and gloomy wilderness, which lies, 600 miles in width, between that lake and Hudson Bay. This wilderness is to-day as it was then, and only he who has followed the trail of this old Jesuit missionary can realize the heroism of the man and the sublime spirit which then actuated his order. While the worthy father was on this trail, and something over 300 miles west of Lake St. John—near the center of this most gloomy piece of woods—he stumbled upon Misstassini. The good man lived to get through to Hudson Bay and to make a report of his discoveries to his society. In this report occurs the following passage:

“Les 18 (June) nous entrâmes dans le grand Lac des Misstassini, qu'on tient estre si grande qu'il faut vingt jours de beau temps pour en faire le tour. Ce Lac tire son nom des rochers dont il est remply, qui sont d'une prodigieuse grosseur; il y a quantité de tres belles îles, du gibier, et du poissons de toute espece, les originaux, les ours, les caribous, les porc-épic, et les castors y sont en abondance. Nous avions déjà fait six lieues au travers des îles qui l'entrecourent, quand j'aperçeu comme une eminence de terre d'aussi loin que la vue se peut estendre; je demanday a nos gens si c'estoit vers set endroit qu'ils nous falloit aller? 'Tais-toy,' me dit nostre, guide, 'ne le regarde point, si tu ne veux perir.' ”

“Les sauvages de toutes ces contrées s'imaginent que quiconque veut traverser ce lac ce doit soigneusement garder de la curiosité de regarder cette route, et principalement le lieu où l'on doit aborder, son seul aspect, disent-ils cause l'agitation des eaux, et forme des tempestes qui font transir de frayeur les plus assurés.”

Translated into English the record would read substantially as follows: “The 18th of June we entered the great Lake Misstassini, which they hold to be so large that twenty days of good weather are needed to go around it. This lake takes its name from the rocks that fill it, which are of a prodigious size; there are numbers of very beautiful islands, game and fish of all kinds, moose, bear, caribou, porcupines and beaver in abundance. When we had gone six leagues among the islands that divide it I saw something like a hill afar off, nearly beyond sight. I asked our people if we were going there. 'Hush!' said our guide, 'do not look at it if you do not wish to perish.' ”

“The Indians of all these regions imagine that whoever would cross the lake must carefully keep themselves from the curiosity of looking at this route, especially the place where one must land, as only the aspect of it, they say, produces an agitation of the waters, and makes storms that transfix (transir) with fear even the most assured.”

The next white man who saw the lake was the botanist, Michaux. In 1792 he followed Fr. Abanel's trail from Lake St. John to Lake Misstassini and then turned hurriedly back, fearing to be caught in the ice, for the season was well advanced. He doubtless barely reached the lake, for he quotes Fr. Abanel's description of it, adding nothing of his own. The Hudson Bay Company have had a trading post on this lake for a century; but it is not in harmony with their policy to allow any description of their territories to be sent out to the civilized world, and hence not a word touching this lake has ever been heard from them.

Thus the matter stood for 100 years. Two white men had seen it in a century. These and no more. One had crossed it; had remained on possibly a day or two; had evidently questioned the Indians that lived in the region as to its extent and characteristics, and had written his report of it. The other had only seen it and quoted the former's report as to it. But after 100 years of silence a voice is heard again speaking of Misstassini. In 1870 one James Richardson of the Canadian Geological Survey was sent to explore the country north of Lake St. John. He succeeded in reaching the lake and that was all. His provisions giving out, he returned without ever seeing the main body of the lake. Next comes Walter McOuatt, sent by the Canadian Government to survey the region. He, too, reached the lake, so he claimed, surveyed a small section of its shore line, and, his supplies giving out, returned, adding nothing to the world's knowledge of Misstassini.

Thus stood matters for a decade, when, in 1883, prompted thereto by the Geographical Society of Quebec, an expedition was fitted out by the Geological Survey and the Quebec Government to make one more attempt to solve the great problem of the northern world. The expedition was in charge of Mr. John Bignell, a gentleman of scientific attainments, of large practical experience in surveying and of most determined spirit. Knowing the gentleman as I do, I do not hesitate to say no better man for such an arduous and important service could be selected. I would pick him for this very trail I am on as my companion above any man I can recall to memory. Thus, at last, it seemed that the mystery of Misstassini, a mystery of two and a half centuries, would surely be solved. But, strange to say, it was not, and this is the reason of it:

Under Mr. Bignell was a Mr. A. P. Low, sent by the Geological and Natural History Survey of Canada, under Director A. R. C. Selwin, to make a report or collect notes for a report of matters falling within range of the department.

The expedition started early in June and reached Lake Misstassini in December. Here trouble arose between Commander Bignell and Mr. Low, the nature of which I need not narrate. The result is all that interests us, and that was that Mr. Low left the expedition, returned to Ottawa and thence went back to Misstassini virtually commander of the expedition. At this point the subject becomes suddenly involved in the mist of Canadian politics, a mist more dense than the fogs of Labrador, and being an outlandish man I will leave it there with polite indifference. But the upshot of it all was that Mr. Bignell, finding himself unjustly treated by the Government, gave up the expedition and returned home. This course I have no right or wish to condemn, but, in common with all lovers of knowledge I profoundly regret it. For if John Bignell had remained, or been allowed to remain, and had he been justly treated he would have remained, Canada and all the world would know to-day the length, breadth and depth of Lake Misstassini, and the mystery of the great northern wilderness, which has challenged a solution for 250 years, would have been solved; and so solved as to have satisfied the most sceptical and exacting. Any report John Bignell set his name to would have been accepted by all parties in Canada as final.

Well, Mr. Bignell returned, leaving Lake Misstassini unsurveyed. Mr. Low remained and, so he says in his report, surveyed it. By his survey he makes the lake only some 100 miles in length and twelve miles in width at its widest part. This is the pith of his report:

"Lake Misstassini is a long and narrow body of water, stretching from northeast to southwest, with a perceptible curve between the ends, the concavity of the curve being toward the southeast. It lies between north lat. 50 deg. and 51 deg. 24 min., west long. 72 deg. 45 min. to 74 deg. 20 min. The length, in a straight line between the extremities of the northeast and southwest bays, is nearly 100 miles, the average breadth of the main body being about twelve miles. At either end of the lake a long point stretches out, dividing the ends into two deep bays. Between the points, and seemingly a continuation of them, is a long chain of rocky islands, which, by overlapping each other, almost divide the lake into two parts, so that a view of the opposite side is rarely obtained in going around the shore. A slight decrease in the present level of the lake would result in the production of two separate lakes, as the water between the islands is quite shallow, and forms a contrast in this respect with the great depth between the islands and shore on either side. Here the lake is very deep, an isolated sounding, made in crossing, having given 374 ft. at a point which, I was informed, was not the deepest part of the lake."

This report of Mr. Low, to put it mildly, is discredited in Canada, because it is at variance with a mass of evidence, both written and verbal, connected with the subject.

In the first place it is flatly contradicted by Fr. Abanel's statement, which he obtained from natives of the country when he was on it, for he states that it takes twenty days to circumnavigate it. But if it is only 100 miles long and only twelve miles wide at its widest part, as Mr. Low asserts, it could not take over six days for a canoe to traverse it from end to end and return, for, being so narrow, there can be no deep indentations in its shore line, and the course taken would necessarily be nearly a straight run going and returning, and his Indian guides could have no motive to misrepresent the matter to the worthy missionary. Moreover, Mr. Bignell declares that natives familiar with the lake told him that it was composed of two parts, a lesser and a larger, and the lesser, as they described it, corresponds with Mr. Low's report of his survey, leaving the larger part wholly to be accounted for. Moreover, I have in my possession a rude sketch of the lake, made by a trapper who has trapped for years in the country, and he declares that Mr. Low's report and accompanying map are only of the smaller part of the southern section of the lake—that at the northern end of this southern, or smaller, section of the lake, it suddenly narrows to a mere passageway, which, passing through, the voyager suddenly comes to the main body of it, or the real Misstassini. He declares that he has been through the narrow passage, and that beyond was a vast body of water, of great width, where, on a clear day, no land or hint of land could be seen, looking northward. This description coincides perfectly with what an old chief told Mr. Bignell, who declared that the part of Big Misstassini lying west of Little Misstassini was only the southern end of the big lake, and that, passing from it

by a narrow passage, he would come to Big Misstassini itself. When asked how large it was he replied: "It is so wide no canoe has ever crossed it and so long that no one has ever seen the northern end of it."

This is all that is known of Misstassini, and all that ever will be known until some man shall reach the northern limit of Mr. Low's survey, and, passing through the narrow passage, if such a passage there be, shall push his canoe out of it into the Great Lake of the North—if such a lake is there!

And all this, remember, is within 500 miles of the city of Quebec and its learned geographical society. Funny, isn't it? If all goes well with me, this year or next year, I or some other man will know the truth of it. For, really, a trail of a thousand miles, going and coming, is no great thing for one who loves the woods.

BILL'S DAWG GOES FISHING.

"Johnny Chat," in the English *Fishing Gazette*, tells the following gruesome tale of an unwonted and unwished for catch:

It was a calm autumn evening, with the twilight just deepening into the sombre shade of the early night. They were two enthusiastic juvenile anglers ledgering for carp, as, rod in hand, they crouched opposite each other; one on each side of the narrow stream, and breathlessly awaiting a bite. One did get a bite; and this is how it came to pass. One of them possessed a dog, an inoffensive but crafty canine, who, just at present, under pretense of evincing his sympathies in his master's piscatorial pursuit, had crept as close to him as he could, but, with an artful leer in his eye, was stealthily appropriating mouthfuls of the sweet, toothsome paste used for bait, and devouring it as silently as possible, so that the chop of his jaws shouldn't give him away. The other youngster opposite just at this moment withdrew his line, put a fresh pellet of paste on his hook, and then cast it (as he thought) back into the stream. Hardly had it reached its destination before he felt something seize it. "Bill," he yelled to the other, "Bill, I've got a bite, and he's a big 'un, too," and then Bill withdrew his tackle to give his pal more room to play his capture, and surrendered himself to the enjoyment of watching the game go on, and listening to the music of the winch as the monster ran the line away. And Bill's dawg, too, in his artless, joyous sympathy, tore up and down the bank, uttering sharp yelps and happy barks, just as though he was as pleased as any of them to see a crafty old carp sucked in. After a while this ceased, and the intelligence was wafted over the water: "Bill, he's sulking now, and I can't shift him," and then Bill's dawg, as though ashamed of a rejoicing which might prove premature, had crouched whiningly at his master's feet, and was howling most dismally, as an apparent atonement for his former excessive jubility. And Bill patted his four-footed crony on the head and otherwise caressed him affectionately, and then made a sudden discovery, for he yelled out: "Oh, cricky! he's been and swallowed Jemmy's hook, and it's right down to his tail," and, adding in a threatening tone to his brother angler across the water: "All right, Jemmy Tadger; you wait till I get you out of school to-morrow morning, and see if I don't make you feel snakes and scorpions for catching my dawg with your fishing hook." And while Bill was sitting down considering which end of the dog was the probable one to afford him some clew as to the whereabouts of the swallowed hook, Jemmy Tadger wended his solitary way homeward, thinking, with a quaking heart, of the to-morrow's meeting with his chum, and trying to guess the extent of the thrashing promised him.

Notes and Queries.

"CLOU D'ARGENT" CAUGHT WITH A "SILVER MILLER."

[We have seen the copy of *THE ANGLER* alluded to below. It was quite inadvertently illustrated (a chrome yellow atmosphere of nicely graded pulp, against which the delicate tracery of insect anatomy stood out in bold relief) with a compressed *natural fly*, which, by some lucky chance, alighted on the third paragraph of Bro. Tomlin's article in the last issue of this journal and was then and there folded in the arms of death, only to be made immortal in the following plaint of Bro. "Clou d'Argent," into whose hands by still luckier chance it fell.—ED.]

EDITOR *AMERICAN ANGLER*:—Who has dared to perpetrate such an outrage upon my feelings? Who in your sanctum has such a spite against my peace of mind? Don't you know that—

"The melancholy days have come, the saddest of the year,"

When the anglers have to stay at "hum," for the close season's here?

Who, then, has been so unkind to me in these autumn days as to enclose in my *ANGLER* the pressed form of a shiny coated "miller?" To which representative of your Publishing Co. is entrusted the delicate task of "putting up" such surprises? Verily, I believe it must be the work of the printer's *devil*.

Surely the "Col." would not be guilty of so harrowing up my feelings, even though I did promise him to write up my last summer's trip among the streams of the Catskill region and have not done it yet. I more than half suspect it is the work of the Editor-in-Chief—just to aggravate me. Else how should the provoking "bug" have been found flattened in just the place it was,—as I turned to the paper to solace the blueness of this muggy morning—on the margin of W. D. Tomlin's delightful account of "The Glorious Fourth at Sucker River?"

Now, Mr. Editor, you might have known I couldn't stand a thing like that. You did know it, I am sure, and I am sure you did it, or caused it to be done, on purpose. But perhaps *THE ANGLER* has taken a new departure in illustration, and the enclosed specimen was not intended for me alone, and may be a similar "bug" was found pressed in a similar place between the folds of each copy. You probably said to your editorial associate, as you glared in fiendish delight across the table at him, "Go to, now! let us put up a 'fly' little joke on the readers of our columns. Let us press into the service this innocent little miller that has been flitting about my luminous nose for the last ten minutes. Perchance the sight of it will annoy our trouting friends when they see it, and may serve as a suggestion, starting reminiscences, and we shall hear from them."

Now, when that insect caught my eye as I was reading this morning, I assure you it had as startling an effect upon my imagination and memory as the sign of a red rag is said to have upon the temper of a proud turkey gobbler. How the sight of its glossy sheen carries my mind back to the

streams and pools where amid the shadows of deepening twilight I have "chucked" a similar "bug" upon the dancing ripples, and felt an answering thrill that caused the blood to rush to the heart and the pulses to tingle with such delightful sensations as only an enthusiastic angler ever can know.

Did you ever plan a day's fishing along some familiar stream so as to "end up" at the close of the day, at just the right hour of the balmy eventide, at some favorite pool, some "spring hole" or some famous dam, or by some old stump or "snag," where you knew the big fellows lurk hidden away by day ready to come forth at night to feed? Did you ever change your cast of small flies and light drawn leader for a larger cast of White Millers, or a Coachman, or a Grizzly King, or a Professor, or some other light-colored and seductive lure, and as the "shadows lengthened o'er the lea" steal carefully up, half hidden by the friendly willow or crouching behind the bank, and drop your fly upon the shining wavelets as gently as the mother's kiss falls on the sleeping infant's dimpled cheek? And did you ever hear the splash and feel the tug and know the joy of the contest that followed as the mad giant plunged and leaped and surged and lashed the foamy pool in his wild efforts to be free? And did you ever, with slow revolving reel, furnish the music for his death dance, as with rod held well up you guided his movements as he waltzed up the shingly bar and lay subdued at your feet? And do you remember the delicious thrill that shot through your veins when his moist sides, all spangled with diamonds and rubies, flashed back the day's last beams or the moon's first rays?

If so you can judge somewhat of my emotions when, to misquote a line from Stevens' "Polish Boy"—

"The dead miller met my gaze outspread upon the paper there."

But now, having given utterance to my wail and groaned out my protest against the uncalled outrage to my peace of mind, I suppose I must forgive you. After all "I wot it was through ignorance ye did it." CLOU D'ARGENT.

SEQUEL TO THE CONSTABLE AND THE LONE FISHERMEN.

After being chased by the constable Ed., the fisherman, went ashore, hid his fish and went home. The next day he found a neighboring landlord who was willing to be a *particeps criminis* on condition of having half the fish. So he took Ed. over and sat in the buggy while Ed. went for the fish. But just as he was ready to start with them he saw two men coming across the lot towards him. Thinking it could be nobody but the constable and his deputy, he dropped the fish and ran for dear life—or liberty. After waiting awhile the landlord hitched his horse and started to find Ed. Meeting the two men, who were farmers in pursuit of a stray calf, he inquired if they had seen anything of Ed. They said they saw a fellow, apparently in a great hurry, going towards the woods. The upshot of it all was the men found their calf, the landlord went home disgusted to find that Ed. had preceded him, and forty pounds of pickerel remained in the swamp to start a guano heap.

Manlius, November 15.

L.

HOW TO COOK FISH.

"In garnishing fish great attention is required, and plenty of parsley, horse radish and lemon should be used."

All very well, but let us cook him properly first. In butter? Fairly good, but makes him taste strong unless very great care results in getting a proper butter, and by a proper butter I mean a fresh butter—moreover a *well made butter*.

Oh, yes! there are improper butters—an oleomargarine butter or a Thames mud butter.

"Thames" reminds one somewhat of London, where you find small shops wholly devoted to cooking fish. In nearly all thoroughfares "plaice" are often found, but mostly, I think, in the smaller shops (pyrotechnis, confessor?), where for fourpence or less you can buy two or three pieces about three inches square, cooked in "drippings," sometimes lard, very good cold, and cheap, too, when one knows that beside this there is only a loaf of bread in the cupboard at home.

The garnishing there amounts merely to a piece of old newspaper, flavored with some lovely patriotic sentiment of a noble marquis or a Land League leveler. There are hundreds of such shops dotted about London—some better than others—yes, but real fish are always palatable and generally excellent.

With a *thick-bottomed* pan, plenty of lard and a table-spoonful of salt to each pound of lard, one can cook most fish—flat fish especially—quickly, and have them toothsome and wholesome.

But all this means nothing—literally nothing—when you bring a fine oil onto the carpet (fine thing for the carpet.) Eating fish—sole, for instance—cooked in oil by some good Jewish house, becomes a wild, voluptuous dream. I have never tasted fish (except perhaps trout on the Neversink stream), "anywhen or anywhere," that could in point of cooking compare to those I have eaten with the Jews. A thick-bottomed pan and again lots of fine oil, salt, bring just to the boil; insinuate into this gently the fish, bring to a nice brown, then trickle them over with the superheated oil till another and richer brown appears, and then yank 'em out, let 'em get cold. (The garnishing be blowed!) Eat and be at peace with all mankind.

I have written this largely for the purpose of calling the attention of your readers to the following, which seems to put plainly a method of cooking fish to me a pleasant memory, but to your readers possibly a novelty. I found it in the Bulletin of the United States Fish Commission. H. A.

COOKING FISH IN FAT.

While boiling water, which evaporates freely, keeps a steady temperature of about 212° F., fat can be brought up to a much higher temperature, as its boiling point is about 600° F. For every-day use it is sufficient to heat it to about 400° F. When fish are thrown into such fat a dry, brown crust forms round them immediately, inside of which the meat is soon cooked. The difference between fish cooked in this way and fish fried in a frying-pan is, that the latter, by absorbing a great quantity of fat, lose by evaporation a good deal of the water contained in them, whereby they are fried unevenly and apt to get burned; while the former, owing to the quickly-forming crust, neither absorb the fat nor lose any of their strength. The best fat for the purpose

is beef fat, but mutton fat can also be used, after first having been cooked in milk. Olive oil may also be used. Butter on the other hand, should not be used, partly on account of the water contained in it, and partly because the caseine, when exposed to heat for any length of time, is apt to burn and make it dark.

Beef fat may be prepared by chopping it up in small pieces and boiling it in water until the water has evaporated, all the fat has been rendered, and the threads have become brown and hard. To prevent its burning, it should be frequently stirred after the water has evaporated. The fat is then strained through a cloth and is ready for use.

The following, however, is a better method: After the fat has been chopped fine, it is boiled in water for a quarter of an hour, taken up, and the water squeezed out, whereupon it is again boiled in water for from one-half to one hour. While still hot it is strained through a cloth. When cold the fat will form a cake on the top. The lower side is cleaned, and the fat is melted once more in order to remove any water which it may still contain.

To use the fat a sufficient quantity is placed in a deep pan, not porcelain lined, however, as the porcelain frequently cracks on account of the heat. The fat does not bubble. When a thin bluish steam begins to show itself, or when a drop of water thrown on the fat immediately evaporates with a crackling sound, it has the required temperature. The degree of heat may also be ascertained by sticking the tail of the fish into the fat. If the fat is hot enough the tail becomes brown and brittle in a few seconds. The pieces of fish thrown into the fat first sink to the bottom, but soon rise again. When they are sufficiently brown they are taken out and laid on a perforated board, so that the fat can run off. They should be served immediately and should not be covered, as the crust soon loses its brittleness. When the fat is not burned it can be used a number of times. If the fish has been rolled in bread, cracker-crumbs, eggs, etc., the fat should be strained every time before it is returned to the vessel in which it is kept, or poured into water, where the impurities will either sink to the bottom or gather at the bottom of the cake of fat, when they can be scraped off.

INDIANS AND SALMON AT FORT WRANGELL.

A correspondent of the *Evening Post* writes as follows: "During our day at Fort Wrangell, while the sun was shining, a family of Thlinkit Indians a short distance back in the country were huddled together in their hut, but as soon as it commenced to rain one and all emerged and sat around on logs and chattels, seeming to enjoy being rained on. The natives take little account of time. They paddle along the coast for thousands of miles on the most trivial of errands, the question as to where they stay or sleep apparently of small consequence.

"The fish supply here is seemingly inexhaustible. Salmon appear in solid schools six and eight feet deep. The Stricken River back of Fort Wrangell and the outlets of some of the inland waters to the salt water are at certain seasons actually choked with squirming salmon, causing them in their eagerness to pass through to crowd each other above the surface of the water, thus creating for the time a solid bank of fish. Smaller fish are also to be found in surprising quantities. Herring swarm in the channels. The candle fish, a small fish about six inches long, which is delicious eating, can be caught by the million. A pailful can be had from a native for the merest trifle. A host of other varieties abound, until the lover of fishing here tires of the sport."

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

A GOOD IDEA.

"I have paid my last dollar to that hotel keeper," was the remark I heard an angler make who had just returned from a poor day's sport and witnessed a gang of illegal fishermen drawing a seine over his favorite fishing ground. The cause for the above remark was that after the law-breakers had completed their work of extermination they returned to the same hotel where he had put up his horse, hired his boat and purchased his minnows, and they were received and harbored by the landlord the same as any law-abiding citizens.

The remark as quoted struck me as being a sensible one and well worthy of being followed by many others of the angling fraternity. It is an undisguised fact that many hotel keepers in the vicinity of angling resorts are in sympathy with the netters. Whether it is from fear that if they are not, these lawless fellows will destroy their property or otherwise inflict injury, or that they are in league with them in their depredations, I cannot say; but in any event the legitimate anglers should teach them a lesson by refusing to patronize such places as will encourage and shelter those who they know are working in direct opposition to the end that will do them the most good. These illegal fishermen are without exception a worthless, whiskey-drinking set, and after they have spent the few dollars over the bar that they have made unlawfully their presence is far more injury than good to any hotel.

I am very glad to say that there are some hotel keepers who are exceptions to this, and who will not tolerate or encourage in any way illegal fishing, and it is greatly to their credit that they are disliked by the net fishermen. Those hotel keepers who have the requisite amount of backbone to stand up to what is right and do what they can to protect their waters should receive the patronage of all law-abiding citizens, and by so doing it would have a wholesome effect in showing these backsliders that all right-thinking people will not countenance their services to illegal fishermen and will not help to sustain their establishments.

If this article should happen to catch the eye of any of the latter kind of landlords I hope it will set them to thinking and cause them to change their course for their own good and that of all those who catch fish with hook and line during the proper season.

SETH GREEN.

SUCCESS OF THE RAINBOW TROUT.

The following letter from Mr. Thomas Chalmers is self explanatory. The California trout were the product of small packages distributed throughout the United States by the New York State Fish Commission in the years of 1881-82.

Mr. Chalmers will be remembered by many readers of THE ANGLER as the first man in the United States to capture adult shad with an artificial fly.

S. G.

Seth Green, Esq., Rochester, N. Y.—DEAR SIR:—A few years ago I

received from you 300 rainbow trout eggs, the most of which when hatched out I turned into a small brooklet (a feeder of the Willimausett Brook) requesting many local anglers who frequent the brook to report the capture of any strange trout. No report. The balance of the young I turned loose in a small pond fed by three or four springs and from which I took the water for hatching. A careful watching of the pond, once only did I notice signs of fish life—a small fish about one and a half inches long. From the sight I got of him I could not identify it. Had given up all hope of ever hearing from them again. Yesterday the owner of the pond pulled a plank out to run the water out and repair the small dam and when the water was near out he noticed a fish commotion on the bottom of the pond. He immediately replaced the plank, put some wire netting over the aperture, and, withdrawing the plank, took two trout and placed them in a tub of water, intending to keep them alive and take me up to see them. Before his dam was finished both trout died. He drove down with them to my house last evening and I assure you they made my eyes stick out. They were male and female veritable rainbow trout. The male weighed close to one and a half pounds and the female tipped the beam at two and a quarter pounds. The man reports several good ones still in the pond and many small ones of different sizes, but thinks many escaped with the rush of water.

Have recently got a place of my own. A small brook runs through it. I will probably utilize it next spring.

Very truly yours,
THOMAS CHALMERS.

ENGLISH NOTES.

BY W. AUGUST CARTER.

(Of the National Fish Culture Association and Secretary of the Midland Counties Fish Culture Establishment.)

THE GOLDEN ORFE.

I have lately been advocating in the English press the desirability of cultivating the golden orfe (*Cyprinus orfus*) on a large scale in this country. Their introduction so far has proved successful, but very few persons as yet have turned their attention to them. We are quite contented at present with the goldfish, which is a perishable creature and fails to reciprocate the most careful attention bestowed upon it; moreover, it does not retain its color and breeds to a small extent in British waters. Now the golden orfe are not delicately constituted; they do not change their beautiful hue, but breed freely and thrive well in ponds and ornamental waters. During the great exhibitions at South Kensington some specimens were imported through the kindness of Sir Albert K. Rollit, M. P., and thrived in the aquarium and notwithstanding the limited area of their habitat they grew several inches in two years and did not succumb to extreme cold, as goldfish do; neither did they change color. The golden orfe exceed the gold-fish in form and grow rapidly into flesh, thriving upon meal food. Sir Albert K. Rollit, M. P., Vice-President of the National Fish Culture Association, evinces much interest in the acclimatization of these fish and has a large quantity in his waters in East Yorkshire. In procuring them from Bavarian waters he has expended a considerable sum of money, but has met with a corresponding amount of success in rearing them. Lord Walsingham also is much interested in these fish and has, through the instrumentality of Sir Albert, introduced some into his water. If fish culturists would undertake to propagate them I feel quite sure there would be a great demand for them and they would quickly supersede the goldfish, which by its bright colors has won "golden opinions from all sorts of people," but on the other hand has lost much in piscatorial estimation by its being short lived.

THE *S. FONTINALIS*.

The early date upon which the *S. fontinalis* spawn is always a cause of remark here, for they have a long start upon their British cousins. At the Delaford Park Fishery they were spawned as early as the 15th of October, which, considering the nature of our climate, seems remarkably early. In introducing them to our waters we must not overlook the element of danger that exists in their preying upon native fry, which are but babies when their American congeners are youths, the difference in their ages being from two to three months. Probably, however, their early aptitude for breeding is accelerated by their semi-artificial existence, and in all probability would not so speedily occur in their wild state. Still, such points as that referred to have to be carefully watched in practicing the science of fish acclimatization.

WHAT PISCICULTURE HAS ACCOMPLISHED.

Mr. A. N. Cheney, of Glens Falls, a well-known contributor to THE ANGLER, has devoted a large share of his time and attention for some years to the consideration of scientific angling and fish culture from a thoroughly practical standpoint and hence these extracts from an article by him to the *Morning Ray* carry the weight of experience and close observation:

The question whether or not a certain section of country offers good, bad or indifferent fishing with rod and reel may to a great many seem of little consequence, but it really is a matter that deserves some attention. Those who care nothing for the recreation of fishing will perhaps be surprised to know how largely this question enters annually into the minds of a large body of our people, and how great has been the growth of the fondness for the sport in recent years. The increase of angling literature has been greater during the past ten years than it has during any previous three decades since the first book upon fishing was written by a woman in 1496. Fishing tackle dealers testify to the greatly increasing sale of tackle used for pleasure, and the daily and weekly newspapers devote columns to chronicling the movements and scores of all kinds and conditions of anglers. The National Government and various State governments spend yearly many thousands of dollars to increase the supply of food fishes by artificial propagation and in planting new and fished-out waters. Thirty-five States and Territories and all the provinces of the Dominion of Canada have fish commissioners who are appointed to take charge of the propagation and protection of fishes, and New York State alone has from two hatcheries, Caledonia and Cold Spring Harbor, hatched within sixteen years 120,000,000 of fish of various kinds and distributed them within her boundaries. * * * * Transportation lines have placed fish in the waters along their railroads and offer special rates to induce anglers to visit them. Guide books and maps are issued to attract travel to certain fishing resorts and correspondents vie with each other in writing up their several localities in the sporting papers. One railroad in the West advertises itself and is known as "The Fishing Line;" another in the East issues sportsman's time table and map for the guidance of anglers, but it is not necessary to here multiply evidence to

show that the patronage of anglers is sought by railroads steamboats and communities. In 1886 the Fish Commissioners of the State of Maine, in their annual report to the Governor, say: "Five millions of dollars is not too high an estimate of the money expended in our State by our summer visitors in 1885. This year the tide of travel to our sporting centers has been far in excess of any past precedent, and the press has in one voice pronounced it double, as also its consequent expenditure among our people and on our lines of travel. The primary attraction for this living tidal wave has been and is our fish and game, and which would never have found its way here had it not been for that powerful allurements."

In the vicinity of Glens Falls are waters that once afforded the best fishing. The Halfway Brook was second to none as a trout stream; the Hudson River provided good black bass fishing; Lake George was and is celebrated for the excellence of its lake trout and its fine black bass, and Glen Lake has produced the largest black bass of the small-mouthed species ever taken in any water on the globe. Constant fishing without due regard for the means employed, and little attention paid to protection and reproduction, impaired the fishing to a greater or less extent; but in recent years there has been an attempt to remedy these evils, and now there is a prospect that our waters may in the near future teem with fish that are native to them, and that new species may tend to make them a Mecca for anglers from all parts of the country. Fishing for salmon (*Salmo salar*) with rod and reel is considered the highest branch of the angler's art, but the United States affords little of this fishing—the State of Maine alone at present containing streams frequented naturally by this fish. The Dominion of Canada, however, reaps a rich harvest from the Americans and Europeans who yearly cross her borders simply to kill salmon. To give an idea of the value of a salmon river, Col. Marshall McDonald, of the United States Fish Commission, tells us that the River Tay in Scotland, not so large as the Mohawk River, brings to its proprietors for its salmon fishing an annual rental of £40,000, or say, \$200,000.

In 1882 the United States Fish Commission began to stock the head waters of the Hudson River with young salmon, and up to this date about 2,000,000 have been planted therein. That the planting is successful is evidenced by the scores of adult salmon taken in the nets by the fishermen in the river below Troy, while endeavoring to find their way back to their grounds. By the construction of fishways over the dams and natural obstructions to enable the salmon to reach their natural breeding grounds in the head waters, this royal fish will be brought to our very doors. In its persistent efforts to bring about this result the United States Fish Commission has been encouraged by the aid rendered by General Passenger Agent Burdick, of the Delaware and Hudson Canal Company, and Superintendent Durkee, of the Adirondack Railroad, who realize that their respective railroads will be greatly benefited thereby. * * * * *

Last May, at my request, Col. McDonald, Chief of Division of Distribution, United States Fish Commission, directed that Mr. Mather send me some land-locked salmon, which, briefly, are the sea salmon that have lost their migratory

habits and remain at all seasons in fresh water, and I planted 20,000 in the Hudson and 10,000 in Lake George. Last year I had a present of 8,000 brown trout (common trout of Europe) from Fish Commissioner Blackford and Superintendent Mather, and these were planted in Clendon Brook. Since then the United States Fish Commission sent me Loch Leven trout from Scotland and Saibling, a German trout, which were planted in Lake George, and brown trout, which were planted in Halfway Brook.

The State Fish Commission has also been very liberal. Between 1873 and 1886 it has planted 1,982,000 lake trout, 12,000 hybrids—one-half lake trout and one-half brook trout—40,000 brook trout, 25,000 rainbow trout, 100,000 whitefish and 18,000 crawfish in Lake George and its tributaries. The whitefish and crawfish were deposited as food for trout and black bass. The late Professor Baird, at my request, sent 30,000 lake trout fry from Lake Michigan to Lake George and last winter the United States Fish Commission planted several hundred thousand whitefish and the State Fish Commission other thousands of lake trout in the same lake.

* * * * *

The game laws only seek to guard, unmolested, fish, birds and animals during the breeding season; they are dictated by justice and common sense; their observance means pleasure and profit; their violation dire destruction.

SALMON PACKING ON THE PACIFIC COAST.

The salmon packing industry of the Pacific coast has become so important an industry and the distribution of the canned product so widespread, that the following from a late Bulletin of the U. S. Fish Commission is of interest to all who use fish food thus prepared. The report is made by Livingston Stone and dated Charlestown, N. H.:

There can be no question about the flesh of the California salmon (*Oncorhynchus quinnat*) being better for canning in the spring than in the fall. It is incomparably better. It is so much better that it has always been universally admitted to be so, and I have never heard a doubt expressed about it before. In the spring the salmon are well fed, plump, handsome, fat, silvery fish, covered with bright and hard scales. In the fall they are, at the best, thin, slab-sided, with nothing in their stomachs; their silvery appearance is entirely gone, the fat has disappeared from their flesh and they are covered with a slimy skin instead of hard scales. In the spring they are fresh from their feeding grounds in the ocean and are in as fine condition as a salmon can be. In the fall their stomachs have been empty, sometimes for weeks and months, and all this while their flesh has been deteriorating.

The difference between the flesh of the spring salmon and that of the fall salmon is the difference between the flesh of an animal in prime condition and one in an exhausted condition. The explanation of the difference is at the same time a proof of the existence of it, for the salmon spawn in the fall, and this sufficiently explains why they are not in good condition at that time, and is also unquestionable evidence that they are in poor condition. I have handled hundreds of thousands of salmon in the fall and

am thoroughly familiar with them at that season, and I am very much surprised that any question has ever been raised concerning the superiority of the spring salmon for canning.

The statement which has been made that the fall salmon is unfit for food is not, however, by any means true. The flesh of the salmon is entirely different at that season, and inferior; but if the fish is not too far spent it is not unfit for food. Indeed, it makes, when very fresh and well cooked, a decidedly edible fish.

Many salmon, however, in the fall become blind and very much emaciated, lose much of their fins and tail, and become covered with white blotches of fungus, being altogether very repulsive in appearance. On the whole, I should say that fall salmon are fish that one should be very cautious about canning, as the flesh is inferior, spoils very soon and might possibly be furnished by unscrupulous persons from fish too far gone to be wholesome.

On the other hand, I must say that the Indians eat the fall salmon even in their most advanced stages of emaciation and disease, and never seem to suffer any ill effects from it. Furthermore, there is a salmon or trout in the Columbia River called the "square-tailed salmon" (or "trout") (*Salmo truncatus* Suckly), which spawns in spring. This fish, of course, is in its best condition in fall and early winter, and there can consequently be no objection to its being canned at that time.

REMARKABLE GROWTH OF TROUT.

The possibilities of rapid trout growth without artificial feeding in waters suited to them and in which the food supply is abundant is illustrated by the experience of Col. F. F. Osbiston, of Idaho Springs, who, in 1886, purchased 5,000 Eastern brook trout at the Colorado State Fish Hatchery, which were at that time a little more than four months old, making his fish at this time about twenty months old. These fish were placed in Col. Osbiston's private lake above Idaho Springs. During the present season a large number of these fish have been caught which weighed over a pound and a half. Recently the Colonel sent by express to State Fish Commissioner Whitehead one of these fish that weighed three and a half pounds. Such a growth in trout was never before heard of by any of the local fish culturists. The truth of this statement is vouched for by a Denver correspondent who sent us the fact above.

WORK IN THE UPPER LAKES.

Recent advices from my assistants, who are on the upper lakes in quest of salmon trout and whitefish spawn, say that they have thus far met with very heavy weather and the take of spawn up to the present time has not been as large as usual. The fishermen were unable to reach their nets for a period of eight days and when they succeeded they were found in a badly demolished condition. They had, however, succeeded in obtaining over 1,000,000 salmon trout eggs and we shall undoubtedly have enough to supply the demand.

SETH GREEN.

"Striped Bass" will confer a favor by sending his address to this office.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

Mr. F. C. Donald, General Passenger Agent of the Chicago and Atlantic Railway, writes us from Chicago that Mr. B. Thomas has been appointed General Superintendent of the company in lieu of Mr. F. Broughton, the former superintendent, with his office at that city.

ON THE MEXICAN GULF COAST.

[Reached via Louisville and Nashville R. R.—C. P. Atmore, G. P. A., Louisville, Ky.]

Much has been said and written about the little villages situated on the Gulf of Mexico between Mobile and New Orleans. Pass Christian, Bay St. Louis, Mississippi City, Biloxi, Ocean Springs, Scranton, etc., are classed as the watering places of the South. Among those Pass Christian is a most desirable place, having large hotels and a number of first class boarding houses where accommodations can be had at a reasonable figure.

This little village has on one side the Gulf of Mexico and on the other side a pine forest with a number of bayous and sweet water streams. Fish can be caught in abundance all the year round. No fish laws in existence here.

A short distance from the residences that are situated on the beach wharfs extend out into the Gulf. On the extreme end is a bath house where the finny tribe can be caught with hook and line in large numbers.

The variety of salt water fishes is large—black and striped bass, redfish, white trout, flounders, sheepshead, drum, Spanish mackerel, pompano, jewfish, catfish, croaker, tarpon, mullet and others.

Bait used, such as oysters, shrimp and mullet, is plentiful.

The ebb and flood tides are both good for fishing.

The sweet water streams are equally as good and within easy reach of this place, where perch and trout can be caught in abundance. Shrimp is mostly used as bait, though artificial lures are sometimes successful.

Ice and snow are not known here, the weather being always pleasant and agreeable. Fever is unknown.

Sail boats and skiffs can be rented at low figures.

Pass Christian, Miss., Nov. 9.

F. A.

[Reached via Old Colony R. R.—Geo. L. Conner, G. P. A., New York City.]

NANTUCKET, Mass., Oct. 31.—The codfishing season has commenced here in good earnest. The boats are averaging about fifty a day when the weather will permit their floating. The fish are taken at the slack of the tide. A day's sport after them is exhilarating and it is well worth a trip to this island to try one's luck. The passage through the surf is exciting and at the same time safe, owing to the skillful management of those in charge of the boats. There are few localities where this occupation is pursued. The Norcross Bros. are prominently connected in the business at the east end of the island and others as skillful at other points.

C. C. C.

EMBARRAS RIVER FISHING.

Francis M. Parker and Otto Weiss left at an early hour Monday for a day's recreation and angling on the Embarras River, eight or ten miles northeast of the city. They had a pleasant day. They caught nineteen white and yellow bass. The largest bass (yellow) weighed two and three-quarters pounds. The second largest weighed one and a half pounds. The others were smaller and weighed from three-quarters to one pound. The day was warm and very smoky, with a fresh breeze from the south. Highest temperature, 77°; lowest, 42°; mean, 61°. The water very low and clear. The baits used were minnows.

On the 9th instant, Charles Bishop and Edward Chilton were at the "Raging Ambraw," as the boys call it, for a few hours' pastime and fishing. Mr. Chilton caught two yellow bass, the largest weighing two and three-quarter pounds, and the second about one and a quarter pounds. Mr. Chilton said Mr. Bishop could have caught some fish if he hadn't put in all of his time praying for rain. He shouted so loud that the fish were frightened from Mr. Chilton's hook. Mr. Bishop is a farmer, and rain is much needed here. Wheat, grass and stock are suffering for want of it.

Shanon Hart says that on the 6th instant he caught two bass (one-pounders) and twelve new lights (croppies), and on the 8th instant eight bass and thirteen new lights. The two largest bass weighed two and a half pounds and were white. I suppose that was river weight. Minnows were used for bait.

J. B. D.

Charleston, Ill., Nov. 10.

THE SPORTSMAN'S PARADISE.

Spirit Lake is about twelve miles from Rathdrum, in a northerly direction, and has long been recognized as a paradise for sportsmen, there being plenty of trout, deer and prairie chickens. Last week a party consisting of Cal Duncan, H. W. Greenberg, Bob Cogswell and Joe Horton, of Spokane Falls, Sheriff Wm. Martin and H. Davis, of Rathdrum, and Deputy Marshal Duff Green, of Grangeville, Idaho, has been out there, and of course it was a jolly crowd. They fished and hunted for near a week and secured six deer, about a hundred pounds of fish, and lots of pheasants and prairie hens. The boys had a delightful time, and the Spokaneites are all now radically in favor of the annexation of the Panhandle to Washington.

Mr. J. W. Maguire writes us from Jonestown, Pa., as follows:

Have lately returned from Montana. I had a splendid time with the trout in Vermillion Creek, a stream emptying into the Clark's Fork of the Columbia River about twenty-five miles below Thompson's Falls. The trout caught averaged over a pound and were of the cut-throat variety.

Since November 1st following party rates have been made for passengers on the East Tennessee, Virginia and Georgia Railway: For parties of ten or more persons traveling in a body on one ticket, ten to fourteen persons inclusive, two and a half cents per mile; fifteen to twenty-five persons inclusive, two and a quarter cents per mile; over twenty-five persons, two cents per mile. One hundred and fifty pounds of baggage for each passenger, when transported on the same train with the party, to be allowed free; excess of that amount to be charged for at regular extra baggage rates.

RUSSIA'S FISHERIES.

The fishery trades are systematically pursued in Russia, since so much of the national life depends on these industries. As a general rule a company of capitalists begins by forming a fishing station (utechiug), and here they make a dam; they catch the fish; they manufacture nets, harpoons, traps and lures; they convert fish refuse—heads, bones, scales, entrails and sounds—into glue, gelatine and isinglass, or even manure; they split, clean, salt, smoke or freeze the fish, and they distribute them through the country to their agents for sale, much of this latter work being done by sledges in winter to save freight. They also pursue the more lucrative fish industries, such as manufacturing the finest kinds of gelatine and isinglass, as well as that curious fish product known as caviare. "Twas caviare to the general," wrote Shakespeare, when the Russian company of London introduced it to this country; and unless men train themselves to like it, just as they train themselves to eat olives, they are still likely enough to splutter when they get a mouthful of it.

Caviare is the roe of the sturgeon tribe of fish, but salmon and pike roes are usually added to assist in increasing the bulk. The roe is cleaned, then washed with vinegar, salted and dried, when it is packed in casks. The best quality is prepared more carefully from the sturgeon alone. The salting is conducted in long narrow bags of linen, which are hung along a cord and half filled with roe. A very strong brine is then poured into each bag until it overflows.

When the brine has all passed through the bags are taken down, carefully squeezed to exclude all superfluous liquid and after a short exposure to the air packed in casks. The finest quality of caviare is made from sterlet's roe, but this is said not to find its way into commerce, being reserved mainly for the Czar's table. It has been stated that 3,000,000 lbs. of caviare are annually packed at Astrakhan alone.—*Philadelphia Star*.

FISHING NOTES.

The Boonville *Herald* of the 3d instant says:

Loren Hulbert, of Harrisville, took Gilbert Hoopper to the county jail Monday evening to serve twenty-five days in default of a fine of \$25 for catching fish with a net in Lake Bonaparte. Mr. Hulbert captured two nets belonging to Hoopper and other parties. It was expected that Mr. Hoopper would turn state's evidence when arrested, and thus implicate other parties who have been engaged in illegal fishing at that place, but in this the officers were disappointed.

A dispatch from Remsen to the same journal says:

On August 7, O. W. Miller, with a party of friends, was fishing at Twin Lake and having caught a few fish they deposited them outside their camp. Parties well known to Mr. Miller came to the camp, helped themselves to the fish, and after eating to their hearts' content complained to State Game Constable Phelps that the fish were not six inches in length, as required by law. Mr. Phelps secured summons for Miller to appear before O. S. Evans, Monday, October 31. Miller was on hand with his counsel, Humphrey Williams, but the plaintiff failed to put in an appearance. The defendant took judgment for costs and hopes that in the future when people eat his fish they will be a little more accurate in regard to size.

ANGLING NOTES FROM ABROAD.

Though written entirely of English waters and from a purely English standpoint, we cannot but think the following editorial article taken from *Land and Water* extremely suggestive to those interested in stream-stocking in this country. The discontented disposition which seeks to overcrowd already good streams with other and often experimental varieties of fish is as much a mistake here as there. It quite too often happens that a farmer who has, for instance, an excellent black bass lake will not content himself with making the most of it as a home for that noble fish, but must needs drain it and restock it with trout for which he finds too late that the conditions are wholly unsuited.

In the present day there are few landowners who require to have pointed out to them the pecuniary value of such streams as may be flowing through their land. Fortunately, no doubt, for those thus possessed, the years which have seen trouble come upon the agriculturist, have also witnessed a steady increase in the number of fly-fishermen, and, consequently, a very decided advance in the value of waters holding trout or grayling. Many of our readers will no doubt experience a confirmatory twinge when we refer to the difference between the rents of to-day and those of, say, twenty years ago; but they pay the enhanced price none the less. The income therefrom derived cannot be but exceedingly acceptable to the impoverished landowner, and it is only natural for that party to do all he can to increase his revenues from this source. And it is but reasonable for him to argue that if his water, containing trout only, is so valuable, how much more so will it be if it can be made to hold grayling as well, and thus give sport to the angler all the year round. Streams holding grayling are very few and far between, and angling for them is a luxury denied to many, and the question of introducing the fish into existent trout streams is one that has for some time past agitated the minds of proprietors of waters.

Now, with regard to the advisability or inadvisability of introducing grayling into trout streams, a great deal may be said for both sides of the question, as it altogether depends upon the nature of the stream and its food supply. If the stream runs through a rocky channel, and the trout in it merely exist, and do not attain to any size—where the average is perhaps eight to the pound—it would, we take it, be a foolish act to diminish the food supply by the introduction of an alien. If, on the other hand, the stream flows through a gravelly channel with rich pastures and fine land, where trout attain a large size, and where it is considered almost a crime to take out anything below a pound in weight, the introduction of grayling could make but little difference. But still it is a step which should not be hastily taken, and one that should be well considered. A year or two ago a project was on foot to introduce grayling into the Exe, and last year it was proposed to introduce them into the Usk, but both schemes were abandoned by the Tiverton and the Abergavenny Associations, and it is now a matter of regret to many of the members of the Houghton Club that the grayling were ever introduced into their water, and it is certain that in one of the Hampshire streams they have constantly to resort to the net in order to keep the stock of grayling down.

It is now something over a quarter of a century ago that grayling were first introduced into Scotland by Mr. George Anderson and some other members of the West of Scotland Club. They were first put into the upper reaches of the Clyde at Elvanfoot, into the Ayr at Muirkirk and the Gryffe in Renfrewshire, and the effect has been prejudicial to all these streams as trout rivers. Twenty years ago an ordinarily intelligent angler could, on the Clyde, make baskets

of from fifteen to twenty pounds of decent-size trout—i. e., trout averaging four to the pound; nowadays it takes a very clever hand to capture seven or eight pounds of trout, and these are poor alike in size and quality. The Duneaton, a tributary of the Clyde, joining the Clyde between Abingdon and Robertson villages, used to be one of the finest trout streams in Scotland, and many a twenty-pound basket of trout has been taken out of this stream; now grayling outnumber the trout by two to one, and on a fine fishing day in April or May one's pleasure and sport is completely spoiled by the number of ill-conditioned spawning grayling hooked.

A correspondent, who has closely studied this question, writes as follows:

"The last time I fished the Duneaton was on a lovely day toward the end of June, in the year of grace 1881. I walked over the hill from Abingdon and struck the river about a mile below Crawfordjohn Mill at 9 A. M. I commenced fishing up stream with the worm, and fished till I got about two miles above the village. I took about six pounds of trout, and through the day, I dare say, threw away about ten pounds of grayling. In the evening, along with Mr. Cranstoun, I went below the mill, and on the flats, in the gloaming, we hooked grayling at almost every throw of the fly, and at one cast I landed four. This was, of course, fishing Clyde fashion, with the loop-rod and the long cast of nine to twelve flies. That memorable evening we never saw a trout at all."

The effect of the introduction of the grayling has been precisely similar in the Ayr and Gryffe. In the Ayr—rendered classic by the poems of Burns—one used to get splendid trout fishing; but now the grayling in Ayr far outnumber the trout, and the trout are much diminished in size; in fact the effect is altogether sad, and recalls to one's mind those lines of "Scotia's sweet singer":

The snawdrap and primrose our woodlands adorn,
And violets bathe in the weat o' the morn;
They pain my sad bosom, see sweetly they blaw,
They mind me o' trootie, and trootie's awa.

Those who contemplate introducing grayling into trout streams must take, first, into consideration the food supply; for rivers, like land, will only support a given amount of animal life, and the first great essential point in rearing stock of any kind, be it fish, flesh or fowl, is a constant and adequate supply of proper food. We all know the project of the man who tried to produce streaky bacon by feeding his pigs one day and keeping them minus food the next, signally failed.

One great drawback to stocking trout streams with grayling is that they are so prolific that the river in a few years becomes overstocked with animal life, and the sanitary arrangements become deranged, and, as a consequence, there are sickly and diseased fish. Unquestionably this overcrowding is one of the great causes of disease, which has of late years proved so disastrous to many of our classic streams. If we play pranks with Nature, depend upon it she will retaliate and assert herself.

Our readers have now, we think, placed before them the *pros* and *cons* of the undoubtedly important subject, and will be able to judge for themselves upon the advisability or otherwise of introducing grayling into their trout streams

From English *Fishing* we extract following criticism on a critic:

Andrew Lang, *litterateur* of taste and ardent book collector of ditto, has met with a piece of good fortune which many a piscatorial bibliophile will envy him, in having picked up a copy of "The Angler's Vade Mecum," printed in 1681. Upon the quaint matter contained in this ancient book Mr. Lang discourses pleasantly, as is his wont, in the October number of *Longman's Magazine*; but, in the course

of his remarks, he betrays a certain unfamiliarity with matters angling, which, out of gratitude, for much past literary pleasure derived, I will endeavor to abolish, by leaving him better informed than he was before.

Speaking of rods seventeen and eighteen feet in length, Mr. Lang exclaims, "There were giants in the land; ten feet of split cane is long enough for a degenerate progeny." So it is, if burn trout be the quarry; but the physically degenerate angler of to-day, who employs "ten feet of split cane" because he is wise enough to do his spiriting with the lightest engine that will do the work satisfactorily, may be seen wielding his eighteen feet of greenheart at any time and place when and where salmon are to be caught, whilst the humblest, though not the least skilful, disciple of the art, the "roach-waster," is not content with less than eighteen to twenty-one feet of bamboo; the latter being an ordinary length to issue from Sowerbutt's factory.

"Our author is very well seen in queer baits; for example, the berries of the cuckoo-pint, cherries, oat-cake and cheese. Why not caviare, cigarettes and cayenne-pepper?" I have never angled with the berry of the cuckoo-pint (the wake-robin (*Arum maculatum*); but, with the cherry, I, like many hundreds of anglers in *la belle France*, have done grievous execution amongst the chub, as I have with both blackberries and black currants, the last-named fruit also proving fatal to many an aldermanic roach. Oat-cake, I should say, might well prove a good bait, made into a paste, whilst as to cheese—well, where is the chub-fisher who has not used this bait?—with Mr. Lang, I say, "Why not caviare?" I should think that this delicacy, mixed up with paste, might prove a very tempting morsel, knowing, as we do, the deadliness of salmon ova.

Certainly "why not caviare?" since it is simply sturgeon roe, well known to the boyhood of the present generation here as the best of all bait for striped bass. But cigarettes? Well we "draw the line at" cigarettes and it is not a fish line.—ED. A. A.

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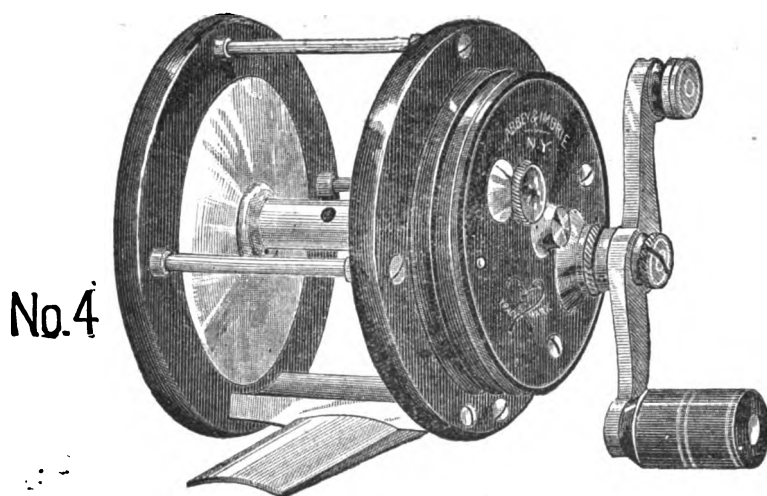
TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
 The Carp from an Angling Standpoint. Nov. 19, '81.
 Deep Trolling in Fresh Water. Dec. 21, '81.
 Chub Fishing with the Fly. Dec. 21, '81.
 Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
 Modern Tackle and How to Use it. April 8, 15, 22, 29, May 6, 20, '82.
 Holding Hard and Killing Quick. April 1, 29, '82.
 Catching Shad with the Fly. April 15, '82.
 Basket Straps, Shoes, etc. April 22, May 5, June 3, '82.
 Baits Used in Salt Waters. May 6, '82.
 When to Strike. May 20, June 10, July 15, '82.
 Trout of the Yosemite. May 27, '82.
 Trolling for Lake (Salmon) Trout. May 27, '82.
 The Reel, Gaff and Rod. June 3, '82.
 Trolling for Bluefish. June 17, '82.
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 The Atlantic Salmon, Scientific and Popular Description—Habitat and Capture. Illustrated. March 31, '83.
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NEW YORK—CHICAGO, NOVEMBER 26, 1887.

VOLUME XII, NUMBER 22.

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each; strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—182 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by our European agents,

THE INTERNATIONAL NEWS COMPANY,
11 Bouverie St. (Fleet St.), London, England.

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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THE FRENCH SOCIETY OF ACCLIMATIZATION.

The administrative council of the French National Society of Acclimatization has decided that, beginning with January, 1888, its Bulletin will appear bi-monthly (on the 5th and 20th of each month), instead of monthly as heretofore, under the title "Revue des Sciences Naturelles Appliquées." This compilation will contain, together with the works of the society's members and sundry other records, papers relating to the questions in which the society is interested, extracts from foreign works, interesting facts and practical information, accounts of meetings of learned societies, and exhibitions and gatherings held abroad. The price of subscription, for other than members of the society, is 25 francs per annum.

A GREED MONOPOLY.

What is everybody's business is always likely to prove nobody's business and the rule holds good in the matter of procuring wise legislation rather more surely than in other directions. All often see clearly the fallacy and recognize the imperfections of a particular fish law, but from the fact that its provisions do not bear heavily on a few men, but distribute the wrong among many, it is difficult to find any one who is willing and at the same time capable of reforming the evil. It requires time, it demands brains and it involves antagonism. Nevertheless it does seem that when it comes to a question of the wholesale and indiscriminate slaughter of food fishes by machinery the anglers, the professional handline fishermen and the market men might for once agree and combine to secure the passage of a law which could not fail to benefit them all in varying degrees.

The steam fishing boats which prowl along our coast and practically monopolize the capture of menhaden and the various food fishes which follow them into shallow water constitute a grinding monopoly of the very worst sort, because the loss which is their gain falls heaviest upon a class that can ill afford to stand it. The loss to the angler for sport only is great, but it is of a sentimental rather than a strictly pecuniary loss. The injury to the market men is due to the periodical glutting of the market with every variety of fish and the entire lack of a reasonable supply at other times. The consumers perhaps only suffer, if at all, from indigestion, caused by eating stale fish; but upon the poor and worthy handline fishermen, who are willing to do a hard day's work for a scanty living, this monopoly swoops down like a commercial cormorant swallowing up the pittance honest men strive to gain in the only way their education and advantages have fitted them to gain it.

Early in the spring authentic accounts reached us of the capture of a school of 20,000 young bluefish off Fire Island Inlet. In July a well-known contributor to THE ANGLER wrote to a Long Island paper as follows:

"At Fireplace Point I found a number of men at work in an ice-house packing in boxes and barrels a big quantity of bluefish which were to be sent to-day by the steamer Judd Field to Greenport and thence to-night by the steamer Shelter Island to New York, reaching that place early to-morrow, in season for the morning market. These fish were caught on the afternoon of Saturday off Cherry Harbor on the west side of Gardiner's Island. They were taken in a purse net by Capt. Eldorais King. He was in

pursuit of menhaden, when he fell in with the bluefish school, and, surrounding them, secured a large number, though many escaped. We estimate the number taken at 15,000 the fish averaging by weight two and a quarter pounds each. They were well iced and nicely packed by Mr. King and Mr. H. Parsons and sons, and if they reach New York market in tolerable condition they will net a handsome sum."

It is clear that the writer of this thought it doubtful, at least, if the catch would reach New York "in tolerable condition." If not, why then instead of glutting the New York fish markets for a few days with stale fish they would surely have been carted away to the nearest fish-oil or "scrap" manufactory. In any event these quotations show the enormous destructive capacity of purse nets when handled by steam vessels and such gangs of men as they can carry.

The difficulties which surround the framing of satisfactory laws on this point, owing to the conflict of State and Federal jurisdiction, is well known, but in other instances, as for example, the wanton destruction of forest timber and also in curbing the wholesale absorption of the public domain by unscrupulous land-grabbers, the State and Federal laws have been so adjusted in harmony as to accomplish practically the desired ends. The best opinion of those best qualified to judge of the evil is that if not abolished, or at least brought under reasonable restraint, the food supply afforded by our coast fisheries will be practically cut off in the not distant future.

THE NEW SECRETARY OF THE SMITHSONIAN.

A dispatch from Washington, dated the 18th instant, announces the election on that day, at a special meeting of the Board of Regents of the Smithsonian Institution, of Professor S. P. Langley to succeed the late Professor Spencer F. Baird as Secretary of the Institution. The *Evening Post* of this city briefly and well sums up a sketch of the Professor's life and the services rendered by him which specially qualify him for the position he is called upon to fill:

Samuel Pierpont Langley was born in Roxbury (now part of Boston), Mass., on August 22, 1834. He was educated at the Boston Latin and High schools. In 1864 he visited the observatories of Europe with his brother, John W. Langley, now Professor of Chemistry at the University of Michigan. In 1865 he entered the Harvard College Observatory as assistant, and was subsequently appointed Assistant Professor of Mathematics in the United States Navy. In 1867 he took charge of the Allegheny Observatory near Pittsburgh. The time service now universal in the United States was inaugurated by Professor Langley, the extended connection with railroads, cities and the public generally having been originated by him as a system at the Allegheny Observatory in 1869. Professor Langley has made a series of valuable researches in solar physics, the results of which have been published from time to time. In October, 1878, he announced his discovery of the "great A" group of the solar spectrum. Professor Langley participated in the expedition sent out by the United States Coast

Survey to observe the total eclipse of 1869. His ability has been recognized by foreign governments as well as by the people and scientists of this country. He is a member of a large number of learned societies.

A MEMORIAL VOLUME.

"The poems of Frank Forester (Henry William Herbert)", a memorial volume, dedicated to the Right Hon. the Earl of Carnarvon, has been issued in an edition of 250 copies. This volume contains eighty poems, historical ballads, translations from Greek and Latin and French, and lyrics. Collected and edited by Morgan Herbert. A sketch of the author's life is included, and an introductory chapter by "Will Wildwood." It is a small quarto, printed on plate paper, uncut, finely illustrated, and bound in vellum paper. The illustrations are from photographs and paintings in possession of Mrs. Margaret Herbert Mather, of New Jersey. They are pictures of the poet, painting by Geo. Ross; the poet's wife, Miss Barker, of Maine, painting by Inman; the poet's son, William George Herbert, Esq., of England; the far-famed home of Frank Forester, "The Cedars," on the banks of the Passaic, at Newark, N. J., painting by W. H. Griffen; Henry Howard Molyneux Herbert, the present distinguished Earl of Carnarvon; Highclere Castle, the birthplace of the Carnarvons; Wilton House, the historic Home of the Pembrokes, and the Meet of an American Hunt, from an artists proof of the celebrated picture of the "Meet of the Meadow Brook Hunt."

FABLES FOR FISHES.

THE LEGEND OF PICKEREL POND.

Once upon a time there was a beautiful pond which was full of Trout of the kind known as old settlers, mossbacks and sockdologers. They were all large, and all had interesting families. Now some benefactors of their species introduced into this pond six small, thin strangers, whose names were Pickerel.

"Are you aware that you are trespassing?" said a committee of two-pounders to the diminutive intruders.

"We are very sorry," they replied, "but we were struck with the beauty of your domain and were thinking of purchasing for investment."

"Our property is not in the market," said the Trout "Besides you are not our kind and we might not agree."

"Variety is the spice of life," pleaded the Pickerel.

"But how do we know," pursued the Trout, "that you are not enemies of the piscine race with large appetites?"

"Ha! ha!" laughed one of the Pickerel with a very open smile. "Mistake, I assure you. See how thin and emaciated we are. We really have no appetites to speak of and would live entirely on such unconsidered trifles as aristocrats like yourself would disdain to touch, and so actually become your scavengers and keep your beautiful lake clean."

And so they did keep it clean—of Trout, and the name of it to-day is Pickerel Pond.

MORAL: When you have any good fishing don't let the Trout Hog get onto it.

GUY HERRICK.

EELS AND BOWLINES.

BY SOULLS.

Mr. Editor, I want to know what is the matter with your brilliant correspondent, "Ben Bent!" The idea of writing up eels for *THE ANGLER*—it's absurd. Who ever saw an eel that knew anything about angles? It's absurd, I tell you.

A he eel or a she eel (I never can tell the difference), an old eel or a young eel, don't speculate in trigonometry or make a fuss about co-sines and logarithms, but oh! Mother of Moses, ain't they away up on curves!

Why, they can beat Legendre or Hogarth and all the other benders at that game, and they are slipperier and crookeder than any alderman that New York ever had. That last is a tall statement, but I'll swear to it if you like. I have sworn at the wriggling beasts time and time again.

Did you ever use a "bow-line?" It seems to have gone somewhat out of fashion of late years, for which and other blessings may we be truly thankful; but I must plead guilty of having made several and used many of them.

I am led to believe that forgiveness follows true repentance. I've repented, yet I mind me of a time when all the people on the Rancocas from Riverside to Mount Holly failed to understand why their fields were overflowed and their cellars flooded when their experience and almanacs said the tide was "ebb."

They didn't know that I was fishing with a "bow-line" just opposite the mouth of the creek and had caught an eel.

There was a deal of backwater from these dams,—I left out an "n," but it don't matter; the dams were there all the same.

Perhaps you don't know what a "bow-line" is. It is, or was then, a beastly contraption made of the whalebone rib of an old umbrella whose owner didn't know where he left it. (He was older than I was, but age doesn't always bring wisdom.) That bow-line was a success as such things go. It was gracefully tapered from the middle to the tips, bent out at an angle of 90°, and from each tip hung a gut leader about two feet long carrying three hooks each.

For the benefit of Mr. Bent and other readers who are not up in mathematics I will just say, that made six hooks altogether.

When that "bent" piece of whalebone was lowered over the gunwale into the water, through the persuasion of a three-pound "dipse" below and a stout cord above, it offered in the four-mile-an-hour-go-as-you-please current six juicy (I guess they were juicy) brandling worms that I borrowed from a livery stable man, to the white perch that were supposed to be out of their office at the moment prospecting for a good lunch route.

The perch came home with colors flying for awhile, but about the time the tide was "nipping," and the bucket was nearly full, there was a cessation of white perch, but there was a strong bite and I pulled him up. I really don't know whether it was a "him" or a "her," but in an instant that boat was full of slime (*Anguilla vulgaris*), tangled lines, snoods and—language.

I am sorry that so small an eel should have done so much damage. I pitied the Jerseymen and I do yet, after

all these years, but perhaps it served them right. They had no business to leave their eels lying around.

Now let's be serious for a minute or two. I'm only writing this to cure insomnia and if it ever gets into print it will aid some other poor fellow that can't sleep or give him a nightmare that will make him wish he was a Chicago Anarchist without a reprieve.

"Bent" asks a question and it ought to be answered, but I want to go to bed. Good night—but black birds and spool cotton make a good bait for eels.

A BIRTHPLACE OF FISHES.

The *Pioneer Press*, of Minneapolis, Minnesota, has the following description of a local fish-hatching establishment:

There have been sent out from the State Fish Hatchery at Willowbrook, this season, to help people the rivers, lakes and ponds of the State with their kind *** upward of twelve millions of small fish, all born and raised in the hatchery. The Willowbrook Hatchery is one of the important institutions of the State. * * * By rail it is only about a mile from the Union Depot, while around by the streets and roads it is about two miles and a half, and it is a pleasant drive or walk down there through the woods and hills and glades with which the way is diversified. The hatchery takes its name from a little purling stream not probably over a mile in length, which rises in a pure spring near Burns Avenue, and courses down over the hillside and across the flat meadows into the Mississippi, incidentally furnishing the fish hatchery with a portion of the water supply for the preserves. At the hatchery what do we see? Five acres of enclosed land sufficiently irregular for its purposes, coursed by an abundant stream of pure water widened out into ponds and preserves, in a very artificial way on the upper level of ground, and more naturally on the lower level; three frame buildings which are pointed out as hatch houses; a cottage in a far corner, occupied by the family of one of the men about the place, and several outbuildings and small structures of various sorts.

* * * * *

In the first place we took a tour of the preserves and ponds. The artificial preserves, extending along the front of the main building, are formed by partitioning off the stream or waterway into compartments, some twenty and some forty feet long, the regular width of waterway being twenty feet. The water at each partition passes through a screen, sufficiently fine to prevent the fish from going through with the water. The fish are mainly brook and lake trout and are of different sizes in the different compartments. "Yes," said the superintendent, "we have to grade these trout according to size instead of by age. They are cannibals and the big ones will eat the little ones if we try to keep them together—so we pick them over about twice a year and separate them according to size." The "spotted beauties" looked very sleek and shiny swimming about in their little ponds. In one compartment there was a collection of Loch Leven trout, raised from eggs imported from Scotland. They are probably the first Loch Levens that have been hatched in America. This va-

riety of trout, which is now a candidate for Minnesota waters, was probably produced by crossing, and for eating is regarded as rather more of a delicacy than the ordinary brook trout. In another pond was a kind of fish produced by crossing brook trout with Columbia River salmon. These fish are hybrids and there is no special object in producing them except for experiment. Mr. Watkins calls them "mules." Another variety found at the hatchery is California brook trout. A red stripe extends the length of the body along each side and on account of this gay decoration some people call the California variety rainbow trout, while others speak of them as "Dolly Vardens." When we came to a compartment containing Lake Superior trout four years old, and in length from a foot and a half to two feet, the superintendent remarked that if those trout were in the lake they would be twice that size at this age. "Take," he said, "10,000 young fry of the same hatching, put half of them in water that's four feet deep and half in water that's two feet deep, and in a year's time those in the four-foot water will be double the size of those in the two-foot water." Thus you see I was obtaining interesting information all the time. About the only fish in the ponds and preserves now are the trout varieties, though the hatchery at the proper season also does a business in whitefish, wall-eyed pike, land-locked salmon and some other varieties. The fish kept in the lower ponds are mainly for breeding purposes, while those in the preserves above are fish that have already spawned. The ponds for the breeders are simply little basins scooped in the ground, and they are all connected in a chain by the stream. The superintendent has aimed to have them appear as natural to the fish as possible and thinks they are better that way.

Now we come to the subject of breeding. At the regular season the fish mate off just as birds in the springtime mate. The male goes up out of its pond into the stream and hunts out a good place for egg-laying, and then goes back and gets the female to have her deposit her eggs. The eggs are not laid, however, for at this interesting period Pat Watson or Bernard Kittel, who are the superintendent's assistants, swoop down upon the fishes, male and female, with a net, and scoop them out of the stream. They are then carried to the hatchery to be "stripped." * * *

Putting on his rubber apron he brought out a shallow tin pan ten inches wide by fourteen long; then catching the trout one at a time in both hands, he caused them to cast their spawn into the pan. There was room on the bottom of the pan for 5,040 eggs, trout eggs averaging about thirty-six to the square inch. From the half dozen or less of fish that were stripped there came about 3,000 eggs. After the superintendent had finished with a fish he threw it back into the water. It did not appear to have suffered any injury from the handling it had received while out of the water, but each in turn flopped up its tail and swam off lively. Water was poured into the pan over the eggs and the latter were allowed to remain in the pan about thirty minutes, during which time they reached the stage of perfection. At first they were all stuck fast to the bottom of the pan, but at the end of the half hour they were loose again, looking like so many peas rolling about. The superintendent then placed them in one of the troughs of running water with which the hatchery is supplied, where they were left to hatch out. "In just sixty days," he remarked, "a little fish will come out of every one of those eggs. They will not vary hardly an hour as to the time of hatching."

THE UNADILLA RIVER.

BY GUY HERNE.

"Fresh woods and pastures new."

It is doubtless well known that the Unadilla is a small stream forming in part the boundary of Chenango and Otsego counties, and also that it is a tributary of the Susquehanna, entering that river near the town of Sidney in Delaware County, on the N. Y., O. & W. Ry. It is perhaps not so well known that it promises before long to be one of the finest and most prolific black bass streams in this State. At least such is the conclusion reached after a fortnight's experience this summer by me and an old angling crony of mine, known in town as Mr. R. B. Forsyth, but who, though of dignified portliness, and grave, even stern demeanor, is referred to for shortness among his intimates and "on the stream" as "Bob," and thus, begging his pardon, I shall call him here, not in undue familiarity but in friendliness.

The Unadilla is about forty miles long and about as wide as the Beaverkill, but as deep as the latter is shallow, and as sluggish as it is swift. Its distinguishing characteristic seems to be long, deep, weedy eddies, and short rapids. One of these eddies, extending from the village of Mount Upton to Rochdale, is about two miles long and from fifteen to twenty-five feet deep. It is perfectly alive with small fish—chub, perch, sunfish and rock bass, forming an almost unlimited food supply for the black bass. Here and there the native skittering on the bank hooks on to a pickerel. But they are sufficiently scarce to be like a chip in a pot of porridge—neither good or harm. Once, too, on one memorable evening, Bob and I actually saw a trout in the river lying motionless with his head to an incoming brook—a poor, old, heavy, black-backed, lonesome aboriginal survivor of the days when the Unadilla was still a trout stream. Yes, we did, and could "prove it, too, if old Bill Jones was alive." He weighed at least a pound and a half, and we sat for some time watching him. At last I jabbed an oar at him, not with the design of catching him in that unsportsmanlike manner, but merely to—to—well, to see whether he had sense enough to get out of the way. He did. Had we known the virtues of the "silent doctor" and could have reconciled our consciences to the proceeding, we could have caught that trout and "et" him baked in cream. But we didn't.

Well, but all this is digression, if indeed the whole paper shall not come under that unfortunate category.

What I started out to say was that we had this summer on the Unadilla two weeks of unadulterated enjoyment—good fishing and better times—but then he and I could, together, wring good times out of a swamp mill pond "bobbing for eels," which I take it is about the lowest form of angling enjoyment yet discovered, unless indeed it be jigging for trout.

The three primal requisites of good fishing on the Unadilla are the three big B's—Boats, Bait and Bass. The last the tourist shall find in abundance; the others he must skirmish for, and skirmish, too, after a very lively and far-reaching fashion. The boats there, few and far between, are overgrown, leaky, ponderous Brobdignagian coffins, and the oars—well, whatever else they may be, they

are not cars. They make a wake like a side-wheel paddle steamer. The bait (helgramites or crawfish) is as hard to find as hens' teeth, and, as for hiring a boy to procure it for you, the thing is next to impossible. We finally solved the difficulty by having it shipped to us from Sidney.

Then the fun began.

Don't be alarmed, gentle reader. I don't propose to dilate at length on every incident of the fortnight's fishing. I might quote *in extenso* the remarks made by Bob when he found, on preparing for his after dinner smoke, that a favorite pipe which had been his fishing companion on hundreds of miles of stream, had dropped overboard and was no doubt sailing calmly away towards Chesapeake Bay and the Atlantic. I couldn't describe his gestures if I tried. Neither would be edifying reading. I pitied and forgave him nevertheless. I might tell of the day when I—but I forbear.

I had better, perhaps, content myself with saying that every day we brought home a handsome mess—when fishing desultorily on short-time trips in the home eddy from half a dozen to a dozen fish, and when making a day of it down stream from twenty to thirty running from three-quarters of a pound to two and a quarter pounds. We found the fish to be in prime condition, chunky, broad-beamed, powerful and gorged with natural bait. "Their eyes stood out with fatness; they had more than heart could wish, *Selah!*" They bit sluggishly, but when hooked fought with the vigor and fierceness of the far-famed "Tasmanian Devil."

In conclusion we would gently hint to angling friends generally that it will be well for them to keep their weather eye on the Unadilla. It is not a mere succession of eddies and rapids, but the potentiality of catching bass beyond the dreams of avarice.

The bass have been there but for a few years and when the natural food supply shall be diminished, which the bass will attend to in due time, the sport will be superb.

It may be added that the fishing there opens late, August and September being the best months. We were there before its prime, our stay extending from the last week in July to the second in August. But then we couldn't be in two places at once, and we had in contemplation a notable tour of fifty miles down the Susquehanna, about which I or Forsyth may hereafter have something to say in *THE ANGLER* "if the weather holds out."

NEW PALACE CARS FOR THE ERIE ROAD.—The Erie Railway has just received from the Pullman Palace Car Company several sleeping and drawing-room cars which are models of luxury and comfort. They are sixty-eight feet long and are equipped with the latest improvements for comfort and safety. The drawing-room cars are of the bay window design and have chairs for thirty-nine passengers, while the sleeping cars accommodate twenty-four. On entering the cars one is impressed with the beauty of the interior arrangements, the efforts of the artists seeming to have been exhausted in their attempts to make these cars veritable palaces on wheels. Velvety carpets, handsome drapery and massive carving all blend in beautiful harmony. The drawing-room cars contain a reception room with chairs and divans, a drawing-room, a book-case, a buffet and a smoking-room. There are electric bell attachments and the heating is by steam. The sleeping cars are equally as luxurious. The names of the parlor cars are *Erminie*, *Undine*, *Bianca* and *Vida*, while the sleeping cars are called the *Alvado*, *Normandie*, *Tisonia* and *Martello*. These cars are running regularly on the through express trains of the Erie between New York, Buffalo and the West.—*From New York Tribune, Nov. 14.*

THE TROUT'S PRECEPT—AND PRACTICE.

If birds can talk, as *Æsop*, *Gay*,
With *Phædrus*, *Grimm* and others say,
And beasts can signify their wishes
In prose or verse, then why not fishes?
Horace, 'tis true, has called them "mute"
But talk they do, beyond dispute.
And if you'll listen to my story
I'll demonstrate the fact before ye.
Where *Thames* with silver current flows,
Nor yet with scent salutes the nose,
Or furnishes the missing link
Between "Superior Stout" and Ink,
Snug in a hole beneath a weir*
An aged trout had made his lair.
He was the hermit of the reach,
His hoary scales and sapient speech
Combined among the finny nation
To give him wisdom's reputation.
Full many a time and oft, they say,
From rod and line he broke away;
While curses loud and deep as thunder
Lit on the piles he darted under.
The deep experience gained by age
Had made him now so trebly sage
That all in vain the lure was spread,
Dace, lobworms, flies, or lumps of bread;
He wouldn't even smell a "Pirate"
(I hope *G. K.* will not be irate).
In vain the angler searched his book.
He "slung," but wouldn't take, "his hook."
Feeling at last the end was near
When water should become his bier,
He sent for all the finny clan
And thus his farewell speech began:
"My friends," said he, "before I go
The way of all fish here below,
This legacy I leave, a plan
To circumvent that monster, man."
At once there issued loud applause
From all the circle's gaping jaws.
For joy (in lieu of clapping hands),
They smote their tails against the sands.
With conscious pride the veteran smiled,
And thus resumed in accents mild:
"The fatal step, as I'm a sinner,
That ruins us, is fish for dinner.
I own myself, in earlier years,
Before repentance sprang from fears,
I've eaten minnows, dace, and bleak,
Hundreds, at least, or more, a week.
What toothsome food the rascals were.
And plump!—but that's nor here nor there.
While heedless thus we gormandize
Man stands above with watchful eyes.
He marks our haunts, he spies our ways,
Then right across our path he plays
In placid stream or purling brook
A live bait tethered to a hook.
Oh! ne'er can memory forget
That piercing pang—I feel it yet—
When first the barb's tenacious grip
Clung to my lacerated lip.
I rushed and tugged, and fought in vain,
'At each remove I dragged a lengthening chain.'
At last, impelled by wild despair,
With lively bound I leapt in air.
Flick went my tail, the line gave way,
Or else I'd not been here to-day.
But oh! my friends," (he raised his eyes,
Devoutly turned toward the skies)
"Be warned, while yet 'tis time, and flee

This fatal vice of gluttony.
 Why should we prey on one another?
 Is not the dace a fish and brother?
 Believe me, worms and grubs and flies
 Are most unwholesome luxuries.
 The choicest morsels, rarest treat,
 Are oftenest barbed with man's deceit.
 Safe from his wiles in peace I feed
 And mortify the flesh on—*weed*.
 He ceased, and with seraphic smile,
 Beamed like a halo'd saint in "ile."
 Amazement seized the scaly crew,
 When thus the pike made answer due:—
 "I must confess our friend the trout
 Is somewhat late in finding out
 That virtue, safety, all we need,
 Lies in a vegetarian creed.
 His arguments had moved me more
 Had he propounded them before.
 Now that his teeth are gone, his teaching,
 From lack of practice, turns to preaching.
 Perhaps old blood and feeble bones
 Can live on weed, or snags, or stones!
 A weed, forsooth, when one is ill,
 May serve as a cathartic pill.
 In my case, Dr. Carp's prescription
 Is of a different description.
 He recommends of dace *quant. suff.*;
 Of gudgeon, minnow, bleak and ruff
Havstus quotidie capiendum
 As long as Providence shall send 'em.
 I can't find anything to shy at
 In such a truly generous diet;
 The new *régime* I'll gladly follow
 When—I find nothing else to swallow.
 Approval shone from every face
 When lo! an uninvited dace
 Came slowly wobbling past the chair.
 "Insolent upstart! does he dare
 To interrupt our conference,
 And deem unscathed to get him hence?
 "No," cried the Trout, "for once my vow
 I'll break, and teach the rascal how
 To rue his beggarly intrusion."
 He snapped him up. When oh! confusion,
 Once more he found his lip impaled.
 Not now his youthful strength prevailed;
 The friendly piles were far away,
 And death had marked him for his prey.
 The pike, amidst the consternation,
 Thus spoke his funeral oration:
 "My friends, our dear departed brother
 Has left this world to try another.
 Whether his fate shall be to fry,
 Or stuffed to grace a wall on high,
 These mysteries we may not pry.
 I fear up there he'll have no need
 To test his theories on *weed*.
 I always warned him not to fast;
 I fear his mind gave way at last.
 He mixed, a melancholy fact, 'tis,
 A pound of theory to an ounce of practice.
 As for us miserable sinners,—
 We'd best disperse and get our dinners."
 —"Cr. Grr," in *Land and Water*.

RAINBOW TROUT FOR SALE.—Five thousand genuine McLoud River rainbow trout, eighteen months old, averaging seven to nine inches long, in prime condition. Will be sold if applied for soon. Address J. O'NEILL, Superintendent, South Side Sportsman's Club, Oakdale, L. I.

Pronounced "waif" by up river, Thams, fishermen.

Notes and Queries.

THE SERIOUS SIDE OF IT.

Fishing is a pretty serious matter after all. Angling for sake of the sport is its bright, its beautiful, its sentimental side; fishing on the high seas for a living, and a poor one at best, is quite another thing. Whenever interests clash THE ANGLER is always on the side of the anglers, even to the extent of defending them when defense seems hopeless, but just at this Thanksgiving time we cannot repress a word of sympathy for those to whom the serious and sad side of the case is presented as it is in the following official record of a single locality—Gloucester, Mass.:

"GLOUCESTER, MASS., Nov. 18.—A résumé of the fisheries business for the year ending October, 1887, shows that the total number of vessels owned in this district is 474, with a tonnage of 30,624, against 487 vessels last year, with a tonnage of 30,583. There have been twenty-five vessels added to the district, against twenty-two last year. A number have been sold or broken up. Seventeen vessels of an aggregate tonnage of 1,137 have been lost with 127 men, who leave sixty widows and sixty-one fatherless children.

"In addition to those lost with their vessels forty-one other seamen have met death by drowning or accident."

We are not alone in our complaints of the indifference of anglers to the work necessary to be done in order that their sport may be had in its perfection. "Felix," in his Bank Notes written for the *English Land and Water*, says:

There appears to be a great want of "*verve*" among the general body of anglers. They are eager enough in the way of obtaining sport, and loud in their complaints when it does not come up to their expectations, but, when it comes to putting their individual shoulders to the wheel and helping to obtain an acknowledged *desideratum*, such as an amendment in the existing laws, it is quite another thing. Then they are conspicuous by their absence from meetings called for furthering the purpose required, and appear to expect all the work to be done for them.

SAM JONES' PIOUS FISH STORY.

Sam Jones appears to be a person of humorous impulses and extremely religious convictions, and the style in which his impulses and convictions spar with each other and by turns knock each other out in one or more rounds is suggestive of a Siamese Sullivan mill. The last set-to happened in St. Louis and is thus reported by the *Washington Star*:

I tell you, brethren, I am a good friend of the Baptists. I love the Baptists and have some good solid friends among them, but I'll tell you an incident, not as a joke on the Baptists, but as an illustration of what I want to say.

Some fellows were fishing in Maine a few months ago, and they all went fishing daily. When they got to the waters they were fishing in they caught, among others, a very curious fish. It was the strangest-looking fish any of the men in the crowd ever saw. One looked at it and an-

other looked at it, and they discussed it a good deal, and then turned to an old Maine man and asked him:

"What sort of a fish is this, stranger?"

"Well," he said, "I don't know the real name of the creature, but we always call it the Baptist fish."

"Why? What do you call it the Baptist fish for?"

"Well," he says, "don't you know it's because they spoil so soon after you take them out of the water." [Laughter.]

Of course that ain't true about Methodists, but some of you Methodists spoil mighty quick after a big meeting.

ROD VERSUS HAND LINE.

A correspondent who some time ago wrote us making some inquiry regarding the fishing at Hog Island Bay, Va., adds to a private letter just received from him the following:

Without waiting your answer I visited the waters mentioned during the second week in September, and, although it was late in the season, had some rare sport with large weakfish on light tackle. The natives use heavy hand lines entirely and when I produced my light rod (one of Chubb's lancewood) they thought the joke was on the "city fellow with his fancy fixings," but when pair after pair of large fat fellows were successfully landed the tune changed and my revenge was sweet.

One old fellow could not become reconciled at all to the idea of the "rod and reel" and kept about half mad all the time I was there. The evening before I came away, as I was packing my tackle case, the old gentleman was passing the door and I remarked to him that the packing up to quit was the part I hated about a fishing trip. Drawing himself to his full height and casting one withering look at my rod, he exclaimed: "Well, sir, I have caught a *great many* fish in my time, but never used a thing like that." I looked up and he was gone.

My largest fish this season was caught June 26 in the Susquehanna River at Port Deposit on the aforementioned rod, being a striped bass weighing a fraction over six and a half pounds.

The Deckertown *Independent* says: "Without exception we believe the Walkill to be the greatest of fishing waters in the State of New Jersey. It withstands the attacks of illegal as well as legal fishermen and produces the greatest amount of fish, comparatively, of any stream in New Jersey."

The classification of the fishes found in the Sea of Galilee has led to the strange discovery that these fishes do not belong to the Mediterranean system, but are peculiar, and belong to the fish system of the great inland lakes of Africa, Tanganyika, Nyassa and the neighboring waters. A writer draws the inference that untold ages ago the Jordan Valley was filled by a lake which was joined to the Red Sea, then a fresh water lake, which in turn was in direct communication with the great lake system of Central Africa.

FISH STORY.

The following fish story is going the rounds of the lake, and its truthfulness is vouched for by Thed. Grandin and Lee Hememan, both reliable gentlemen who were never known to tell a fish lie. A local fisherman, by name Bob Griffith, while trolling some weeks ago with spoon bait, struck what he thought to be a sunken log. He stopped quick and backed up so as not to break his tackle, but found something had hold of the other end of his line that could pull him faster than he could back water. He then grabbed his line and began to haul in for all he was worth. After a hard struggle for fifteen or twenty minutes he succeeded in bringing the monster up alongside of his boat, and when about to gaff him the mascalonge (for such it was) gave a jump into the air, broke both hooks from the spoon and landed on his side, and lay on top of the water as if dead. Bob then put the gaff to him, when the fish made another plunge and straightened the gaff hook (which was made of quarter-inch wrought iron) out straight and escaped. Such is the story as told to the writer, and I believe it to be true, for without doubt there are some very large mascalonge in this lake.

TOM.

Lakewood, N. Y., Nov. 11.

THE ETYMOLOGY OF "CLAM CHOWDER."

Some one gives this bit of culinary-philological history in the *American Register* (Paris) to wit: I am frequently asked "What is clam chowder?" and I have replied that more than thirty years ago I heard the poet Longfellow urged a French lady to eat some clam chowder because it was French. The lady looked up in astonishment and uttered a most significant *Comment donc*, unto which Longfellow replied that the French originally settled on the borders of New England and Mother Necessity soon taught them how to stew clams and fish in layers with bacon, sea biscuit (crackers) and other ingredients in a kettle (*chaudiere*). Now, from the French the Indians learned the Roman Catholic religion and a little of the French language and a great deal of the dish which the new-comers had invented. The Indians are not apt in the pronunciation or in the significance of the French, and when they heard the Gaul speak of the *chaudiere* the Indians supposed it referred to the food and his nearest approach to the pronunciation was *chawder*—the name which early English fishermen and settlers learned from the Indian, and which the Anglo-Saxon in New York further corrupted into chowder.

The Watertown *Times* says that W. D. Wilson, of that city, caught one of the finest mascalonge taken out of the St. Lawrence River this season. The fish was caught between the foot of Grindstone and the head of Wells Island and weighed 45 lbs. His length was 4 ft. 6 in. and girth 25 in. It took an hour to land him.

The Portland (Oregon) *Mercury* remarks that an Indian named the Prince of Wales speared a halibut in Scow Bay weighing 110 lbs. We doubt if his royal namesake ever had such sport.

ANGLING NOTES FROM ABROAD.

We cull from *Land and Water* the following interesting notes on angling implements—the use of them:

Seeing that several of your correspondents are evidently desirous of information as to the merits and demerits of these rods, as inventors of the steel-centered principle we venture to tender the result of our experience of them. We find them everything that can reasonably be wished for in practice; this after an experience of six years. Your correspondent, "Fifty-nine," has, it appears, a rod that has failed to suit his hand, and because this is so he falls foul of a theory that he sets up in order to knock down. When the friend (a too candid friend, we fear) of "Fifty-nine" states that "a length of cane derives its spring from the bark," he is on pretty sure ground, though it is also true that without the bark or rind one gets more spring action from jungle cane of good quality than can be got from almost any wood, even of tropical growth. When, however, your correspondent puts the query, "How, then, could this long length of steel, which from its very length and thinness has so little spring at all, and which actually runs through the middle of spliced pieces of cane, do more than spoil the action of the rod in casting?" The amateurish innocence betrayed will cause a smile to illumine the swarthy faces of workers in metals, from the village blacksmith upwards. That steel is the strongest spring material extant, we should have thought would never need asserting. We are ignorant of what the Messrs. Hardy use in the way of steel for their rods; but can scarcely conceive that they use piano wire, which one is led to believe from the letter of your Manchester correspondent. Provided the steel is self-sustaining, i. e., will not droop more than say one in thirty-six when held at one end horizontally, its presence in a rod's core will put at least double the degree of stiffness into the rod; even limp wire will strengthen a rod. Let your correspondent lash an end of a length of limp, wayward steel wire at one end of the middle joint of his fly rod; this done, let the wire be tightly wound round the joint spirally down or up to the other end of it, using, say, wire half as long again as the part of the rod wrapped. This done, and the second end of the wire secured by being well whipped or wrapped with waxed hemp or silk, the rod will be found to be far more powerful than it was before—a simple experiment that can readily be tried by any of your readers.

Steel-centered rods we find to be gradually and surely ousting the old all-wood weapons from the hands of the best fly-fishers of the time. We find habitual users commend them to their friends, and that monthly and yearly they are becoming more popular, not only with fly-fishers, but with salmon and pike-spinners, etc. * * *

Whole steel rods of infinitesimal weight, we believe, will be the ultimate development of the steel-centered idea, and we see no reason for not being sanguine of a speedy advance in the direction indicated. D. AND W. H. FOSTER.

A wrinkle for those who make and stain their own rods: After the rod is sandpapered and ready for the stain, "Black Gnat" and others should rub the wood well with a wet rag or sponge and let it dry thoroughly before anything more is done. He will find that the application of the water will have raised the grain of the wood very considerably. The rod should again be rubbed well with fine sandpaper; no amount of stain will make the grain rise again. If the stain is put on without this previous dressing with water the grain will rise, and no amount of varnish, thick or otherwise, will produce that fine smooth surface that professionally made rods show.

To stain and polish a fishing rod a black color I have found the following recipe a very simple, cheap and substantial process: Boil one pennyworth of logwood; apply

the same hot (giving two coats). When dry rub the rod perfectly smooth and use tincture of steel, polishing by rubbing twice a week with good boiled oil, using, at the same time, plenty of elbow-grease.

In reply to the query of "Perplexed" in last week's issue of your paper, "How to throw a cast net," I beg to submit the following instructions:

First, make fast the end of the headline to the left wrist by means of the loop, then gather up the line in coils in the left hand and grasp the net in the same hand, about two feet above the leads, place a certain length of the leaded bottom of the net over the left shoulder, and then, gathering up the remainder a little at a time in the right hand just above the "tuck," make a circular cast in the required direction. A right-handed swing of the body will assist the operation, and the net should spread out perfectly round, and the leads touch the water all at once. The process is difficult to describe, and more difficult to effect without practice. Your correspondent would learn more in five minutes by watching a clever practitioner than any one can teach him in twelve months by written instructions. In further reply to him:

A trunk for holding live bait should be constructed of thoroughly seasoned wood, and may be of any size, according to the number of fish to be stored. A box three feet square and two feet deep will hold a large quantity. The lid consists of a loose plank made exactly like the lid of a punt-well, two flat pieces of wood projecting from underneath on one side and a staple and hasp on the other securing it. The hasp is secured to the staple by means of a wedge of wood, secured by means of a small staple and a piece of string. The holes should be bored with a small center-bit in the sides and ends, and the more of them there are the better. If the holes are large gudgeon can escape. Cages made of galvanized wire are very useful for keeping live bait, and are immeasurably more handy than the heavy wooden trunk.

The *English Fishing Gazette*, in its editorial notes, makes the following comment on our fish and game laws as compared with those of England:

The stringency of our game and fish laws has long been a grievance with certain classes of the community, who quite overlook the fact that but for these very laws both fish and game would be so scarce as to be hardly worth the going after. We have no sympathy with the narrow-minded landowner who looks upon a half-starved laborer who takes a rabbit or a few roach for his hungry progeny as a criminal of the lowest type; but we do believe in the importance of a close observance of the regulations respecting fence months and sizable fish cannot be over-estimated. If there are among our readers any who have given vent to a grumble at having to return a seven-inch perch to the Thames, or at being restrained at pike fishing in May, it may be some consolation to them to learn that in one of the most enlightened countries of the world, whose Senators have had the advantage of examining a dozen or more systems of game preservation before making a plan of their own—a country, moreover, which boasts of the freedom of its citizens—game and fishery laws exist which are certainly not less stringent than our own.

At the risk of stopping the emigration of members of the unemployed to New York, we do not hesitate to make it known that in that State no Sunday fishing and shooting is allowed, and they call it "the Land of the Free!"

The above startling fact is contained in a work on "The Game Laws of New York State," kindly sent us by Mr. A. N. Cheney. In New York State almost every kind of fish worth protecting appears to have its close season, which, in most instances, is judiciously varied for the different dis-

tricts. With a few exceptions, the netting of trout is absolutely prohibited in all public waters. To catch, sell, or have in possession a black bass of a less weight than half a pound, or less length than eight inches, is illegal, offenders being liable to a fine of ten dollars for each fish, besides being guilty of a misdemeanor which may be punished by imprisonment. Nets are prohibited in waters inhabited by black bass, except by permission of the Fishery Commissioners.

* * * * *

Even in what would be termed in England private fisheries netting for trout is not allowed, and the only waters in which any other mode of capture than with rod and line is permitted are Lake Ontario, the Niagara River and ponds and streams fed wholly by artificial sources or by springs existing upon the same farm or tract belonging to the owner or proprietor thereof; or waters brought by pipes or channels other than natural into artificial ponds or reservoirs. In England a curmudgeon may rent a stretch of one of our finest trout streams and net it unmercifully, to the distraction of the fishery owners above and below him. The law lays hold of such fellows in America.

* * * * *

The above extracts are sufficient to show that the fish destroyer does not have it quite all his own way in New York State—at least, not if the law is enforced. Feathered and furry game is not less protected. For instance, no person may kill more than three deer in one year; moose may not be killed at all; hares and rabbits may not be hunted with ferrets except in orchards and nurseries, and forests adjoining them; wild ducks may not be shot at night, nor killed with any weapon except a shoulder gun. The killing of several song-birds is altogether prohibited; but *English sparrows are not protected, and giving food or shelter to the same is a misdemeanor!*

The editor of the *Gazette* should know—probably he does—that this inhospitality shown the English sparrow is not due to his nationality, but to the incalculable injury done by this bird, which, originally imported as an insectivorous blessing, has come to be a widespread pest, but not a greater one perhaps than is threatened by the wholesale “emigration of members of the unemployed to New York.”—ED. A. A.]

Bulls and anglers have apparently to try conclusions more frequently in England than here, and touching this a writer in the *English Fishing Gazette* says:

I was glad to see in your last issue the subject of “bulls” brought up. I know from experience that the bull often affords exciting sport when the trout have failed to do so. Last year a friend of mine was nearly caught; but he was a good runner and jumper, and got to the gate in time to get over with a bad fall, breaking himself, his rod and his landing-net. He doubled up the further side of the fence, not daring to take to the open again, and though he lay full length in the ditch, that bull stood sentinel on the other side for nearly three-quarters of an hour. This incident set me thinking, “What is the best thing to do under these circumstances?” So I determined to try and collect a little evidence on the subject. I will be as brief as possible. One man said: “Why did not your friend lie down and let the bull gallop past him?” Another said to me: “I never go fishing without a coat with a red lining. I throw it down for the bull to tear to pieces, while I endeavor to escape.” Another would face any bull with a big stick. I mentioned my friend’s escape to a practical man—a river-keeper—who said: “Ah! he must have forgotten his catapult; I always carry one.” One said: “I always carry a small revolver; it won’t kill the bull, but it will stop him.” I asked a farmer, who had a very wicked bull, how he arranged with him? He answered: “The bull knows me, so

I can manage him with a big stick.” “But,” he added, “a stranger came here the other day and said he would drive the bull out of my field into the yard single-handed. Bets were made that he could not do it. He then asked for a wheelbarrow, went into the field, and giving the bull no time to think rushed at him. The astonished animal put down his head, and when he was tired of having the wheel jobbed against his nose he turned tail, and was driven triumphantly into the yard by the ingenious stranger, who pocketed his winnings and went on his way.” I will not trouble you with other suggestions I have heard. I could run once, but alas! it would be a mean bull that would not give me sixty yards in one hundred now. However, joking apart, something must be better than another, and I hope some one will tell us in your columns what it is. I possess a wheelbarrow and a fishing coat with a red lining, but I am thinking of trying all the plans I have mentioned, and a few others (if I can find bulls enough), and sending you the results if you care to see them.

A FURIOUS WHALE.

A dispatch from Provincetown, Mass., gives an account of the killing of three men by a whale as follows:

The whaling steamer *Lizzie N.*, Captain West, which has been engaged in the finback whale fishery on the eastern coast this season, on October 6th, when about fifteen miles east-southeast from Seguin Island, off the coast of Maine, saw a large loan whale of that species and attempted its capture. A boat was lowered and manned by Capt. West, his mate and four seamen. Capt. West, with a large, heavy whale gun, in which was an explosive bomb lance, took the breach of the boat while the mate steered. Upon approaching the whale it was seen that he would be an ugly customer to deal with, as he showed no inclination to run, but kept slowly milling around, evidently waiting to be attacked.

When the boat was near enough to warrant a shot Capt. West fired the gun, but as the sea was rough the motion of the boat destroyed the accuracy of the aim. The whale was badly wounded, but not in any vital part. The whale then made for the boat, and in passing under it struck it with his flukes, throwing it some thirty feet into the air with its crew. As the boat descended the whale again struck it with his tail, and completely demolished the boat and killed one of the crew, Jacob Klock, cutting him completely in two. The whale then commenced to bite and strike with his tail at the pieces of the boat, killing two more men, Neal Olsen and Chris. Johnson, who were supporting themselves on pieces of the wreck. Capt. West, the mate and the other man were safely taken aboard the steamer, and another boat was lowered to capture the monster.

Then the whale attacked the steamer. By a quick turn of the rudder the steamer cleared him by a few feet. This occurred a second time, and the swell which was created by the whale’s fall back into the water knocked all on board off their feet. By throwing over an immense cask, at which the whale, thinking it was the ship, kept bucking away, the Captain was enabled to get a shot with the bomb lance, and finally the whale was killed. When the whale was brought ashore, R. F. Pierce, of Chicago, bought him and will exhibit him through the West. A large car to transport him has been built at an expense of \$4,000.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

THE INTELLIGENCE OF FISHES—NOTES.

That fish are possessed of more knowledge and cunning than they are usually given credit for there can be no question and I am continually becoming more convinced of this fact.

Every fly-fisherman of experience knows how quickly trout in a stream will discover the fraud in the flies and learn the tackle, and after a few have been pricked in one locality how necessary it is to move on for a short distance in order to cast the flies to a new lot of fish. It is also quite evident that they must have some method of communication, as it is in no way probable that they all learn what danger is by actual experience; there must be some means through which this knowledge is gained one from the other. It is undoubtedly through the quickness and keenness of sight and the observance of the movements of other individuals about them that enables them to comprehend.

In fish culture we find that the trout after a time learn what the spawning races are, what the net is that is used for their capture and what the result will be if they enter them, and the consequence is that after they have been taken a few times many of them will refuse to enter the races, and it is therefore necessary to make a net suitable for the purpose and take them from the ponds by that means and manipulate them. By experience we are able to tell by the appearance of the females as they lie on the bottom whether they have nearly or quite reached the spawning stage and if the eggs are to be saved they must be procured at that time or lose them.

To illustrate the value of this I will cite one case which happened this season, although we have had a similar experience with other fish before:

We had been taking from a pond containing the brown or German trout from one thousand to ten thousand eggs daily, but from the appearance of the females we knew that a number of them were in perfect spawning condition but would not enter the raceway. We accordingly drew the net in the pond and took from those that were ripe one hundred and fourteen thousand eggs.

There is constantly something new developing and something to be learned, and to be successful we must be on the alert to take advantage of any emergencies which are liable to arise.

Mr. E. L. Marks, Superintendent of the Fulton Chain Hatchery, reports to me that he has succeeded in obtaining a total of 290,000 speckled trout eggs, which is doing remarkably well considering that this is the first season that an effort has been made to procure the spawn from that locality. Mr. Marks is of the opinion that many more could be taken provided the proper preparations were made before the spawning season opened. He has also taken over one

million frost fish eggs. The above number of young fry will make their presence felt in the course of the next three years.

The first lot of salmon trout eggs from the Great Lakes was received at the Caledonia Hatchery Nov. 8th, and amounts to one million six hundred thousand. The balance of my force has not yet returned, but from reports we shall probably get as many more, which will be sufficient to supply all demands.

SETH GREEN.

"FLOATED" OYSTERS.

Professor W. O. Atwater, in the course of an article on "The Chemistry of Oyster-fattening" published in the *Popular Science Monthly* for the current month, writes:

"Not every lover of the oyster knows that the size and plumpness which are so highly prized in the great American bivalve, and which are so attractive in specimens on the half-shell or in the stew as to lead the average man to pay a considerable extra price for extra size, are not entirely natural; and even those who do know that the majority of the oysters in the market are artificially swollen by introducing water into the tissues are not at all aware that the process by which this is done is closely analogous to that by which the food in our bodies is conveyed through the walls of the stomach and other parts of the digestive apparatus and poured into the blood and lymph to do its work of nourishment.

"Physiologists are, I believe, agreed that the passage of the digested food through the walls of the alimentary canal in man and other animals is, in large part, due to osmosis or dialysis, and that the operation of the physical law is a very common one in the animal body. But the quantitative study of the chemical changes involved is generally rendered difficult or impossible by the very fact of their taking place in living animals where the application of chemical analysis is impossible. An opportunity is, however, offered by the oyster, which, since it lives in water and has a body so constituted as to readily permit the inflow and outflow of water and solutions of salts, may be easily used for experiments. The results of the experiments have a practical as well as scientific interest, since they confirm the common explanation of the increase in bulk of oysters by 'floating,' and show that it is essentially a process of watering in which the bulk is increased without any corresponding increase, but rather, if anything, a loss of nutritive material."

In this connection Professor John A. Ryder is quoted in a note to a Bulletin of the U. S. Fish Commission as follows:

"Concerning the question as to why oysters should differ in nutritive value, Prof. John A. Ryder has explained in some of his reports that it is due to the amount of nutritive matter stored up as connective tissue in the body, mass and mantle of the oyster. This tissue varies greatly in amount in different individuals in different seasons. At the end of the spawning season the oyster is exceedingly emaciated in flesh. If such samples are selected for analysis the result would doubtless be very different from the case of those selected when the oysters were in good condition as to flesh or fatness."

PLANTING SALMONOIDS IN INLAND LAKES.

The following brief paper by Martin Metcalf from one of the Bulletins of the U. S. Fish Commission adds weight to the warning against careless or ill-advised stocking of waters with various species not suited to each other or to their surroundings:

All the salmonoids, including the brook trout, grayling, etc., breed in sheltered, rapidly-running water of low and even temperature (or the equivalent of these conditions), the eggs being deposited and fertilized near the head springs or at such points as will secure the conditions named and not subject the eggs to freezing, as a slight frosting, or even a sudden change of a few degrees in temperature, is sufficient for their destruction. So, also, exposure to the direct rays of the sun, or in water at rest for but a short time, will destroy the eggs.

Most of this family of fishes spawn in late autumn and early winter, while only a few, such as the grayling, California mountain trout, etc., cast their ova in early spring. The spawn of the last-mentioned varieties will endure a somewhat higher temperature, but is still more susceptible to sudden change and less tenacious of life than the fall spawners.

It will thus be seen that the expectation of the successful natural reproduction of the salmonoids in lakes having no considerable visible inlet or outlet must meet with disappointment. Adult trout may survive for a time along with pickerel and bass, but their successful reproduction and the growth of the fry is impossible, as the perch, pickerel, bass and other predaceous shallow-water fish would quickly devour the fry. There are whitefish in some of the deep inland lakes of Michigan, and the species have been there beyond memory, but this is because the whitefish is a deep-water fish and thus escapes from his predatory neighbors.

The promiscuous planting of any kinds of fishes in all sorts of waters has been and must always be without satisfactory results. Especially is this true of depositing too many kinds together, without reference to the present inhabitants and special conditions of the waters and to the requirements of the newcomers. Many of the early plantings, however, in the waters of Michigan were largely matters of experiment, and need not be repeated.

THE WOOD'S HOLL PROPAGATING STATION.

We gladly reprint from the columns of the *New York Times* the following extracts from a communication dated Wood's Holl, Mass., Nov. 18th, because, though most of the important facts therein contained have appeared from time to time in *THE ANGLER*, the facts of its publication points to the growing interest taken by the public, and hence by the intelligent editor of the better class, in angling, fish propagation and fish protection:

It is generally understood that the United States was the first of any country to begin the artificial propagation of codfish. To the Government Fish Commission is due the important undertaking. The United States Government has something like a dozen or more stations; but that at

Wood's Holl on Cape Cod, is considered the most important of them all. It was the individual States, not the General Government, that first began the work, and Massachusetts took the lead, and it was not until 1871 that the General Government yielded to the idea of fish culture, and in that year the United States Commission of Fisheries was established by act of Congress.

To the late Professor Spencer F. Baird is due much scientific research on the propagation of fish. His attention was at first only given to the restocking of inland fresh waters with fish, and afterward sea fishes were hatched. The labors of the Fish Commission have grown to a wonderful magnitude.

The Government has erected at much expense large and commodious quarters at Wood's Holl. The buildings are prettily painted, and are located about opposite the Old Colony Railroad Station and near the landing of the steamboats from Nantucket and the Vineyard. The grounds are neatly kept, and to the traveler the place seems to be a summer residence rather than a fish incubator, as it were. The United States steamer *Albatross*, now plying in Southern waters, and the Government schooner *Grampus* are connected with this industry and are frequently seen at the wharves here, as well as steam launches, schooners sloops and other vessels. The question is frequently asked:

"Why did the Government erect such elegant buildings and establish such an industry way down on Cape Cod?" is easily answered. Outside of Gloucester, Mass., the cape is probably the largest fishing district in the country, and its interests are of a vital importance to its citizens, whose livelihood to a great extent is dependent upon this great fishing industry. Wood's Holl, situated on the south side of the cape, was selected because it is peculiarly adapted to the hatching of cod and other deep-water fish. Prof. Baird gave his reason for selecting this place in these words: "The water for such a purpose as this must be perfectly pure sea water and as saline as in the ocean, nor should it be stagnant. After searching all along the New England coast from Long Island Sound to Eastport, Me., we decided that right here was the very best place for our station. Here the point of the mainland between Buzzard's Bay and Vineyard Sound is prominent. The rise of tides differ in the two bodies of water, and so for the greater part of the day there is a powerful current running from the bay to the sound or from the sound to the bay, through the narrow channel between this point and Naushon Island. Sometimes the water boils and bubbles through here with greater fury than through Hell Gate before the rocks were blasted out. It is aerated almost like soda water and has no sediment. It is perfectly saline, for there is hardly a fresh water spring within five miles of Wood's Holl. We have a safe harbor here, with eighteen feet of water at the dock at low tide, and are handy to the railroad station."

There are now thirty-seven States and Territories that have fish commissions of their own, and it has been proved that there is now one kind of fish the farmer may have fresh all the year round, except in spawning seasons. That fish is the German carp, and was introduced first into this country in large quantities by the commission after the close of the Berlin fish exposition. At that great show the United States took first prize; a costly cup, presented to

Professor Baird by the Emperor of Germany. When the commission begun active operations in this line it had no boat of its own, not even one of the catboats which are now so common; but soon a little sailing sloop was hired, and as the work increased a small steamer was chartered, and then another was borrowed from the Navy Department. At the present time the commission has four steamers and a number of schooners of its own.

The commission here has sent fish to the Gulf of Mexico and to almost every part of the Atlantic coast, the chief kinds being cod, carp, shad, whitefish, salmon and mackerel. As a general thing man cannot do the work of nature. The aim is to save the eggs and protect them. A single cod will usually lay 1,000,000 eggs; from a single cod weighing ten pounds 9,000,000 eggs have been taken. In the natural process of fertilization not over 10,000 of these are the fertilizing milt.

Cod at first is nothing but a shapeless, helpless bag of gelatinous matter, and it is six weeks before it is big enough to protect itself and evade the attack of enemies. When hatched it is only one-eighth of an inch long, and, as the cod is the favorite dish of all other kinds of sea fish, but very few of them ever come to maturity—possibly one of a hundred survive.

In artificial propagation there is practically no loss, for out of 1,000,000 950,000 are probably saved. If you can furnish to the water as many fish from one cod as nature can from 10,000, it would not take many fish to make a big impression on the fish supply. It is the same thing with the lobster. There are not to-day five per cent. of the lobsters that there were thirty years ago, and the commission proposes to make up this.

At the headquarters here considerable study and research is made. Experienced naturalists are at their desks in the laboratory dissecting the dead or studying the habits of the living fish. The commission here gives employment to fifty to seventy-five men, not including the sailors.

Capt. Chester, who died two years ago, was the superintendent of the stations here, and had particular interest in the hatching department. In this room, on the first floor, are the aquaria, in which are sunfish from all parts of the globe. The commission has some English soles which lie in an aquaria of water and a sandy bottom; in another squid and many other kinds of fish are seen.

The Newark Sunday *Call* has the following decision and comment:

"The Supreme Court of this State on the 9th inst. decided a case of interest to many farmers and property-holders. About a year ago Abram Terhune, of Ridgewood, a fish warden, prosecuted J. Henry Blauvelt for having a fish-weir in the Saddle River where it passes through his grounds. Blauvelt contested, and Justice John Martin Knapp gave a verdict for the warden and \$25 and costs. Lawyer W. M. Johnson, of Hackensack, carried the matter to the Supreme Court on certiorari, and it was argued Wednesday. The first ground for a reversal of judgment was illegality of the Justice's proceedings; the second that a citizen has a right to place a weir in his private pond, as was done in this case, though the pond was a part of the stream. The Court set the verdict aside on the ground of illegality, and did not pass upon the other points.

"It is a pity that a decision was not given on the second point—whether a man has a right to violate a fish law on his own property—as this is a question that thousands, of landowners are contesting every day in crossroads stores and country tavern tribunals."

LAWLESSNESS IN MAINE.

From reports from Maine it would seem as though a portion of Texas or New Mexico had been dropped there. I hope to hear soon that the honorable commissioners are after those black-hearted, black-faced rascals who presented themselves at midnight, armed with guns, etc., ready to commit murder, arson or any other crime necessary to further their devilish plans. These same men (?) have been violating the law for years past in spearing salmon and have felt that they owned the whole lake and all the streams, and have looked upon the commissioners and their deputies as their individual enemies. Unless I mistake the grit of Gov. Bodwell and the commissioners the fur will have to fly before this thing is overlooked, and unless the offenders are brought to justice what safety and what inducement will there be for many of the thousands that go to Maine each year to angle, if such blackguards as those eighteen men are allowed to run the angling business according to their own sweet desire? It seems to me that Maine has too much money invested and at stake to allow such Ku-Klux gangs to prowl about at night. When eighteen armed and disguised men are allowed to prowl around at night and commit such acts unpunished what is there to prevent horseback parties *a la Texan*, etc., from stopping stage coaches, railway trains, etc.

Lake Sebago is one of the finest bodies of water in the country and has, so far as I can learn, offered, aside from the land-locked salmon fishing, but little inducement to the visiting anglers, and if the efforts of the authorities are to be squelched by such a gang of freebooters the quicker we learn the fact the better, as we can then plan to go where such things are not allowed. It would seem as though all law-abiding citizens that reap any benefits from summer camping in Maine would feel that it was for their interest to hunt up and punish those law-breakers. If their chicken coops or wood piles or anything of immediate concern were broken into they would all cry for justice to run the rascals down. Why shouldn't they do as much when it concerns all who derive benefits from visitors to Maine attracted by its beautiful lakes, streams, mountains, pure air, etc.?

We, here in New York, receive each year finely printed circulars and pamphlets telling us in glowing terms of the excellent fishing such-and-such a route offers, but I have been unable as yet to learn that these same railroad and stage people do anything to protect and propagate the fish necessary to make such attractions. When they by their voice and hands help along the good work, there will be no such midnight raids and chances of murder as that last outrage. This is a case a thousand times more serious than the jigging of a few trout at Rangeley, and needs a remedy that will prevent any repetition. Now let us see what "Dirigo" really does mean. P.

Brooklyn, Nov. 21.

Repulsive-looking as the toadfish is, it is said to manifest more care for its young than is usual among fishes, redeeming its appearance by its moral character.

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Fishing and Fishing Waters.

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CHAUTAUQUA LAKE, N. Y.

(Reached via New York, Lake Erie and Western R. R.—L. P. Farmer, G. P. A., New York City.)

Our fishing season here on Chautauqua Lake is about ended. With snow three inches deep covering the ground and a cold wind from the north make it anything but agreeable angling. Very few make the venture outside of the local fishermen. Notwithstanding the cold, disagreeable weather we have had the past two weeks, mascalonge have been taking live bait freely and a number of fine catches have been brought in.

The bass fishing this fall has been very poor for some reason which I can't explain. The lake has been very low ever since last July, and all the creeks, with but one or two exceptions, dry. Perhaps some reader of THE ANGLER can tell the reason. I send you the score of catches for the past two weeks, and not a bass among them:

On Nov. 4th, Major Steavens caught four mascalonge, largest weighing 16 lbs.; total weight, 30½ lbs. On the 5th he caught two, largest 8½ lbs.

On the same day Noah Cornish landed five, largest 11 lbs.

Albert Palmer, on the 4th, caught three, and the next day landed two, largest 8½ lbs.

Capt. Charles Anderson, on the 8th, caught three, largest weighing 7½ lbs.

Thed. Grandin, Superintendent of the Chautauqua Lake Steamboat Company, in five afternoons during the past two weeks succeeded in bringing eleven mascalonge in out of the wet, the largest weighing 9 lbs., smallest 5½ lbs.

Hote Allen, in the same time, landed six, largest 8 lbs., smallest 6½ lbs.

The writer, on the 5th, caught three, largest 9 lbs. On the 7th, I caught three, largest 7½ lbs. On the 8th, one of 11 lbs. On the 10th, two, and one of them the largest fish I ever landed with rod and reel. He weighed a good 20½ lbs.

Tom.

Lakewood, N. Y.

NOTES FROM ENGLISH LOOKOUT, LA.

(Reached via Louisville and Nashville R. R.—C. P. Atmore, G. P. A., Louisville, Ky.)

Enjoying as we are an unusual immunity from cold and bad weather, our local sportsmen are doing some good work here about. We boast of four clubs here now and one in embryo, which, from the talk of prospective members, promises to eclipse any and everything in the neighborhood, as one of them expressively remarked the other day, it will be a "daisy." The clubs here are, briefly, the "Lookout" Club, with J. H. Oglesby as president; J. O. Bigelow, secretary and treasurer, and T. H. Lyons, F. Kennedy, R. M. Russell, G. Westfeldt, T. Herndon and G. Williams as members. The Pearl River Club, with J. J. Smith as presi-

dent; H. G. Hester, secretary, and B. F. Glover, Harvey Cree, Geo. W. Hill, G. M. Hillyer, W. Murtagh and E. G. Schlieder as members. The Ballejo Club, with Charles Ballejo as president, and W. Lawrence, Dr. J. A. Hunter, as members, there being others in this club unknown to me as yet, and lastly, we have a private club owned by Messrs. Bush and Johnson, of New Orleans, to whom the membership is, I believe, confined, although their hospitality brings many an ambitious angler out to enjoy a sport they seldom indulge in themselves.

On Nov. 13th, while there were a good many out, our full complement was not here. Almost all those who did come did their fishing at the Rigolets or in that vicinity with the following result:

Mr. Lyons, 36 speckled trout (sea trout), 2 redfish (channel bass or red drum) and 8 sheepshead. Mr. Edward Dobell (a guest of the Lookout Club), 32 speckled trout and 4 sheepshead. Mr. Glover (who fished in fresh water up what we call Mulatto Bayou), 20 green trout (large-mouthed black bass.) Mr. Hill, 18 speckled trout, 1 redfish and 6 sheepshead. Mr. Hillyer, 16 speckled trout and 9 sheepshead, and Mr. Murtagh, 16 sheepshead; Mr. Lawrence, the only member of the Ballejo Club out, taking 20 speckled trout and 2 or 3 sheepshead as his share of the day's sport.

The water was only in medium condition and the best work done with tide at half ebb. A steady south wind blew all day long. We only use natural bait, mostly shrimp, sometimes minnows, and for redfish find crabs very efficacious as a bait. We fish for everything in these waters with rod and reel.

While I consider the score of Nov. 13th fair, better work has been done and will be done again. Now let me tell you the event of last Sunday and I will trespass no longer. It was this: One of the guides, Mr. Frank Peterson, the keeper of Lookout Club, caught and landed a sheepshead that by actual weight on the railroad station scales weighed ten pounds. It was pronounced the largest ever caught here. More later, and until then,

G. J. E.

CONVENTION OF COMMERCIAL FISHERMEN.

The National Fish Association met in this city on Wednesday of last week. The meeting was animated and sentiments were strongly expressed on the Canadian Fisheries question. The president, Mr. F. G. Babson, of Gloucester, Mass., called attention to the subsidies which nearly every other nation, ancient and modern, paid to its fishermen. Canada itself gives \$161,597.39 a year. The United States would not even place its fishermen on a level with the Canadians. "Our nation cannot afford to drive our fishing flag from the seas," he said, "to keep a doubtful friendship of a foreign nation. Self-respect leaves it but one course—the course of Jackson."

He also declared the association must oppose all legislation which should endeavor to banish seines, nets or traps. If they were not freely used, he said, American fishing for the market is at an end. "There are 100,000 persons in Massachusetts dependent on fishing for a living. Shall this great food supply be stopped because a few amateurs imagine the nets may injure their silk line sport?" he asked.

Mr. Babson declared that American fishermen didn't want to fish in Canadian waters, nor did they want Canadian fish in their markets. They wanted the same protection that is accorded to other industries.

Luther Maddox, who has been canvassing the coast and great lakes fisheries for recruits to the association, reported great interest and numerous additions to the membership. He found that the Canadians had the inside track in the lake trade as well as the ocean. The Canadians had cheaper tools and cheaper taxes, he said. They were looking out for the main chance. Their friendship was only skin deep. "The Canadian Government claimed the whole world," he continued, "including the American markets, and she offers to take these in exchange for some imaginary rights which are of no use to us."

The association uttered its sentiments in the following resolutions:

WHEREAS the fishing industries of the United States are largely the foundation of the marine power of the Government upon which it must depend for defense upon the ocean in time of war; and

WHEREAS as a producing interest it is entitled to equal protection with the other producing interests of the country; therefore,

Resolved, That the association respectfully asks of the National Government such action and legislation as shall place the American fisheries upon a national basis, never again to be made a matter of bargain or sale to foreign nations, but to be reserved to the people of the United States in the same manner as that which characterizes the laws for our coasting trade.

Resolved, That as the history of the past has demonstrated that the fish product is dependent directly upon natural causes for its supply, and that domestic competition has always been sufficient to prevent enhanced prices, and also that a feeling of confidence alone is needed to increase the fishing fleets of the nation, so that the supply of fish shall be fully equal to the demand and our national marine power increased thereby; we ask that our industry be so protected by duties on foreign fish as to give to American fishermen their own markets, in contradistinction to the subsidized, bounty-fed and untaxed fisheries of foreign nations.

Resolved, That we ask no privileges of fishing in foreign waters, but do demand the same commercial rights for our vessels in foreign ports as foreign vessels have in ports of the United States.

The New York *Evening Post* writes editorially of the recent meeting of the National Fishery Association as follows:

The object of the meeting was to prevent, if possible, any arrangement of our differences with Great Britain which shall embrace a repeal of the fish duties. By the way of emphasizing this thought, the hint is thrown out that those duties ought rather to be increased. Such, we think, must be the interpretation of their demand that "our industry shall be so protected by duties on foreign fish as to give to American fishermen their own markets." The phraseology is rather vague. It might be construed even to mean the complete prohibition of foreign fish, since in that way only would American fishermen be perfectly secure in the enjoyment of "their own markets"—their own markets, by the way, being a metonymy for all the people of the United States who consume mackerel and codfish.

The Fishery Association, composed of a limited number

of boat owners at Gloucester and Portland, have brought us to an unpleasant nearness to war with Great Britain, a condition which the Governments of the two countries are now seeking to avert. The condition of affairs which they have brought about is such that the merest accident may serve as a spark to set off a powder magazine, to plunge the country into incalculable expense and misery, and to set back by many degrees the clock of the world's progress. We say that they have brought on this national peril because they caused to be abrogated a perfectly fair arrangement, to which we had agreed and with which everybody except themselves was satisfied, under which the fishing interests have grown and prospered for more than ten years. It is said that we paid too much for the privileges and the peace we enjoyed under the Washington Treaty. If the abrogation of the treaty had given us the money back, that would have been an argument—a poor one indeed, but something—for resorting to the *status quo ante*. But the money having been paid, it was paid for all time, or so long as the other side did not disturb the arrangement. Therefore all whimpering about the Halifax award at this time is aside from the purpose.

Edward Atkinson, in a recent letter addressed to a member of our Chamber of Commerce, shows that our entire importation of fish amounts to no more than \$2,250,000, and that the duty collected thereon is only \$500,000, and that the money so collected is not wanted for purposes of public revenue. Now, would it not be wise public policy, would it not be a great relief to people who want to be at peace with their neighbors and cultivate the Christian virtues, to appropriate \$500,000 annually to the Gloucester and Portland fishermen, on the basis of their tonnage or their catch, and then restore the provisions of the Washington Treaty just as they were before, minus the money award, which Lord Salisbury said England was willing to forego? We make the suggestion in good faith. We are content that the fishermen should have their "pull," on condition that all causes of disagreement between the two families of the English-speaking race be removed. We believe that the great majority of the people would even agree that the Government buy up the whole fishing fleet in order to be rid of this fishery pest and menace, so that the nation may once more go about its business in comfort and quiet. If it is money that the Fishery Association want, let them have it, in Heaven's name, but let us have peace. We hear a great deal about bounties for sugar and subsidies for this and that. Why not put a capitalized value on the fish duties and pay it to the claimants either in a lump sum or an annual stipend? It would cost not more than a few days' war expenses, and would possibly spare us a world of mortification and vain regrets.

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TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
 The Carp from an Angling Standpoint. Nov. 19, '81.
 Deep Trolling in Fresh Water. Dec. 21, '81.
 Chub Fishing with the Fly. Dec. 21, '81.
 Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
 Modern Tackle and How to Use it. April 8, 15, 22, 29, May 6, 20, '82.
 Holding Hard and Killing Quick. April 1, 29, '82.
 Catching Shad with the Fly. April 15, '82.
 Basket Straps, Shoes, etc. April 22, May 5, June 3, '82.
 Baits Used in Salt Waters. May 6, '82.
 When to Strike. May 20, June 10, July 15, '82.
 Trout of the Yosemite. May 27, '82.
 Trolling for Lake (Salmon) Trout. May 27, '82.
 The Reel, Gaff and Rod. June 3, '82.
 Trolling for Bluefish. June 17, '82.
 Tackle and Traps. Aug. 12, '82; March 15, '84.
 Light vs. Heavy Rods. Aug. 26, '82.
 Waterproofing Fish Lines. Nov. 18, '82.
 Troutling in the White Mountains. Dec. 2, '82.
 What is a Pike? What is a Pickerel? Illustrated. Dec. 16, '82.
 A Sole Leather Bait Box. Illustrated. Dec. 23, '82.
 Striking and Playing a Fish. Dec. 30, '82.
 The White Perch. Illustrated. Dec. 30, '82.
 A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
 A Treatise on the Black Bass—Habitat, Modes of Capture, etc. Illustrated. Feb. 3, 10, 17, 24, '83.
 The Strawberry Bass. Illustrated. Feb. 17, '83.
 A Treatise on the Pike—Habitat, Tackle Used, etc. Illustrated. March 3, 10, 17, 24, '83.
 The Reel—Its Place on the Rod. March 24, April 14, June 16, '83.
 The Atlantic Salmon, Scientific and Popular Description—Habitat and Capture. Illustrated. March 31, '83.
 Minnows as Bait. Illustrated. April 7, 14, 21, '83.
 Catching Flounders. Illustrated. April 7, '83.
 The Trout of Maine Waters. April 14, 21, 28, May 5, '83.
 The Trout Streams of the United States and How to Reach Them. April 14, '83.
 A Serviceable Fishing Boat—How to Build it. Illustrated. April 21, '83; Dec. 20, '84.
 Making a Split Bamboo—Amateur Work. April 28, '83.
 Varnish for Rods. May 5, '83.
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 The Colorado Mountain Trout. May 12, '83.
 A New Minnow Pail. Illustrated. May 12, '83.
 The Striped Bass—Rock Fish—Description, Modes of Capture, etc. Illustrated. May 26, June 2, '83.
 The Split Bamboo—Its History, etc. May 19 and June 2, '83.
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 The Smelt of Sebago Waters—Description, Capture, etc. Illustrated. June 16, '83.
 A Treatise on the Sheepshead. Illustrated. June 16, '83.
 The Lake Trout—Where, When and How to Take Them. Illustrated. June 23, 30, July 7, '83.
 The Kingfish and Bonito—A Practical Essay. Illustrated. June 23, '83.
 A Treatise on the Black Drum and Spanish Mackerel. Illustrated. June 30, '83.
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 Amateur Rod Making. Illustrated. July 21, Sept. 29, Oct. 13, Oct. 27, Nov. 17, Dec. 22, '83; Jan. 5, 12, 19, 26, Feb. 2, 9, 16, 23, '84; Jan. 3, 10, '85.
 The Henshall Rod—Dimensions, etc., given by Dr. James A. Henshall. July 21, '83.
 A Treatise on the Lafayette (Spot) and the Menhaden. Illustrated. July 28, '83.
 The Shad and Snapping Mackerel. How, When and Where to Take Them. Illustrated. Aug. 11, '83.
 Anglers' Knots. How to Tie Them. Illustrated. April 8, May 6, 13, '82; Aug. 18, Sept. 8, Oct. 6, '83.
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 A Treatise on the Hogfish—Salmon's Choice. Illustrated. Sept. 1, '83.
 A Treatise on the Pike-perch or Wall-eyed Pike—Habitat, Habitat and Mode of Capture. Illustrated. Sept. 8, 15, 22, 29, Oct. 6, '83.
 Dressings for Fishes. Sept. 29, '83.
 The Blaby Trout—Scientific and Popular Description; How they are Caught, etc. Illustrated. Oct. 13, Oct. 20, '83.
 Rod Joints. Illustrated. Oct. 20, Nov. 10, '83.
 Description and Review of the American Anglers' Casting Tournament. Oct. 21, 28, '82; Oct. 20, 27, '83; Oct. 18, 25, Nov. 1, '84; Oct. 24, 31, '85; May 28, June 4, '87.
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 Fishes of the East Florida Coast—How, When and Where Taken. Illustrated. November 10, 17, 1883.
 The Channel Bass. " 17, "
 The Salt Water Trout—Florida Weakfish. " 17, "
 The Red Grouper. " 24, "
 The Rock Group. " 24, "
 The Pompano—Pom. " 24, "
 The Crevalle or Crevalle. " 24, "
 The Mangrove Snapper. December 1 "

- The Ladyfish—Skipjack—Bonafish. December 1, 1883.
 The Jewfish. " 1, "
 The Sergeant Fish—Crab Eater. " 8, "
 The Tarpon—Tarpon. " 8, "
 The Black Drum. " 8, "
 The Salt Water Catfish—The Conger Eel and Mullet. " 15, "
 The Best Bait for Black Bass. Illustrated. Dec. 15, '83.
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 Reason and Instinct in Fishes. Nov. 24, '83.
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 Black Bass Grounds Near Baltimore, Md. Feb. 23, '84.
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 Black Bass Fishing at Henderson Harbor, N. Y. July 12, Aug. 30, Nov. 1, '84.
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{ NEW YORK—CHICAGO, DECEMBER 3, 1887. }

{ VOLUME XII, NUMBER 23. }

PUBLISHED BY THE ANGLERS' PUBLISHING COMPANY.

OFFICES:—252 Broadway, New York.

TERMS.—Three dollars a year; club rates, three or more, \$2.25 a year each strictly in advance.

WILLIAM C. HARRIS, Editor and Manager.

WESTERN OFFICE:—152 Dearborn St., Chicago.

Yearly subscriptions received, and single copies furnished on application, by THE INTERNATIONAL NEWS COMPANY,

11 Bouverie St. (Fleet St.), London, England

Entered at the Post Office at New York as second-class mail matter.

Make all payments to the order of the Anglers' Publishing Company.

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IS SALMO OQUASSA A HYBRID?

Our able contributor "J. D. Q." writes us that he has just received word from Scotland that the cross between the trout and *salar* has proved fertile. The question is settled—trout may be improved in size by the introduction of salmon blood without sacrificing fertility.

In view of this the question comes up again "Is the *Salmo Sunapee* a hybrid?" Mr. Woodbury has long claimed it is and gives his reason. He can no longer be pooh-poohed and called a blockhead. It is a knotty question, his origin of the *oquassa*.

COMMERCIAL UNION.

It would be a little curious if the Canadian fisheries dispute should result in the bringing about of some sort of commercial union between Canada and the United States. That such a consummation is devoutly hoped for by a very large number of Canadian citizens was amply demonstrated to us during a comparatively recent trip through the Province of New Brunswick. The people chafe at the disadvantage they are under in any efforts to gain a livelihood as compared with their neighbors just across the St. John. Their chief market for export is in the States and they must be able to raise potatoes, for example, fifteen cents per bushel cheaper than the Maine farmers can before they can start on even terms with them. The desire for commercial union is in that province quite outspoken among an independent class and was, we found, entertained by many who did not care to make their views known to their neighbors. At first sight such an arrangement might seem to be all on one side and that the Canadian side, but it cannot be denied that there are resources in the Provinces which might be far more profitably developed than at present if Yankee money and enterprise had full swing and a fair show there. The lumber industry is nearly done with in the Province and Maine no longer requires protection for her timber interests.

ANGLING CLUBS.

There is a growing tendency in this country to form angling clubs for the purpose of acquiring fishing waters, preserving the same and building near by some sort of accommodations for members and their guests. This is no doubt an excellent idea and does much to foster the interest in the pursuit and it not infrequently happens that these clubs become financially very prosperous and the shares very valuable, besides which the club as a social organization often grows into unexpected importance.

It is quite noticeable in reading foreign journals that abroad vast numbers of fishing societies (they are not generally called "clubs") appear to be scattered all over the countries where there is fishing to be had. Almost every county in Great Britain has its angling society, and many localities, small towns and unimportant bailiwicks have similar organizations of a purely local nature. In many instances these societies own and control no private waters, but are little social organizations of plain townsmen or countrymen living near some good free fishing—often nothing

voured by other fish and thus the balance was maintained between destroyers and destroyed. But man was upsetting the natural balance by depleting certain locations through destroying the germs of life planted in our waters. Nature provided for her own losses, but did not undertake to repair the injury perpetrated by man.

As an instance of the great thriftlessness that took place he referred to the large quantities of immature soles brought daily into Billingsgate Market at certain seasons, which were perfectly useless for edible purposes. What was the consequence? The decay of the sole fishery! We required stringent enactments passed to forbid this wholesale and wanton destruction, and unless the legislature did this the reputation of our fisheries would suffer. It was difficult, however, for any government to act in such a matter without definite knowledge. We desired to know more about the natural history of food fishes, the position of their spawning grounds, the nature of their diet, their enemies, the influences governing their migration, such as the temperature of the water, currents, etc. All this would be of immense value not only in procuring additional legislation, but in aiding the semi-artificial reproduction of fishes. The culture of fish in England had now become a necessity, but the science was much neglected. The only public body engaged in fish culture was the National Fish Culture Association, which was performing excellent work, as far as funds would allow, in stocking waters. They were now prepared to enter into the culture of marine forms and institute scientific investigations at sea. The latter was highly necessary, not only for the better prosecution of fish culture, but for rendering information to the government. The aqueous kingdom was at present a sealed book, as the knowledge obtained concerning its finny inhabitants did not extend further than generalities.

For instance, continued the lecturer, nothing was known as to the length of time that elapsed between the birth of seafish and their appearance upon the table. We could only speculate upon their rate of growth and the time at which they became reproductive. It was also necessary to know the exact date at which fish spawned, the period of time occupied in the incubation of the ova and at what rate they grew. If these questions were answered we should be able to solve the mysteries which at present blinded us to the importance of regulating the capture of fish and of cultivating forms whose numerical proportions were diminishing.

In conclusion the lecturer urged upon the meeting to seriously consider the importance of adopting a system of national fish culture, which thrust forth its claims to be ushered into active existence as a redeemer in the present state of affairs and as an aid in developing the denizens of our waters.

A vote of thanks was passed to Mr. Carter, who in reply stated that he was most anxious to proclaim the cause of fish culture and the claims of the association, which he represented, at every opportunity.

Volume XI of *THE AMERICAN ANGLER* is now bound and on sale. Price \$3.00. The previous volumes, in uniform binding, can also be had at the same price.

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THE FUNERAL OF THE LATE PROFESSOR BAIRD.

The *Washington Star* of the 2d instant gives the following details of the final interment of the remains of the late and lamented Professor Baird:

The funeral services of the late Professor Spencer F. Baird, who died last August, took place in the chapel at Oak Hill Cemetery, this morning at 11 o'clock. Rev. Dr. Giesey, of the Epiphany Church, officiated. The little chapel was filled with official and personal friends of the deceased. After the burial service of the Episcopal Church had been read eight men, dressed in the long blue uniform blouses of the cemetery, entered and bore the coffin, on which a bunch of lilies of the valley was resting, to the vault, which is located about 300 ft. northeast of the gate, on a high terrace, facing the creek. It bears the name of General Churchill, U. S. A., Mrs. Baird's father. The body of Professor Baird was placed in the niche immediately below that containing the remains of General Churchill. Just as the tablet was being put in position a lady hurried to the vault, which was not visited by the mourners, and asked the workmen to wait until she had placed on the coffin a bunch of calla lilies. Just then an official of the Smithsonian Institution arrived, bearing a handsome wreath of white roses surmounted by palms, which had been sent, through the German legation, by Herr Von Behr, the President of the German Fisheries Verein. This was placed inside the vault.

The tablet was then quickly placed in position. It reads:

SPENCER FULLERTON BAIRD,
Secretary of the Smithsonian Institution.
Born at Reading, Pa., February 3, 1823;
Died at Wood's Holl, Mass., August 19, 1887.

The mourners were Mrs. Baird and Miss Lucy, her daughter; Mrs. Biddle and son, of Philadelphia, sister and nephew of the deceased, and Miss Rebecca Baird, of Carlisle, Pa., another sister of Professor Baird. Among those present at the services were Senator Morrill, General M. C. Meigs, Chief Justice Waite, Senator Edmunds, wife and daughter; Dr. C. H. Kidder, Col. and Mrs. Ferguson, Prof. Langley and wife, Prof. Alex. G. Bell, President Welling, Dr. N. S. Lincoln, Dr. Dean, Mr. S. C. Brown, Capt. Collins, Mr. True, Prof. Rathbone, Mr. Marshall, Col. and Mrs. McDonald, Herbert A. Gill, J. P. Wilson, J. Ormond Wilson, and several officials and employes of the Smithsonian Institution. The servants of Professor Baird's family were also present.

DEATH OF FRANCIS COLLIER GOODE.

Mr. Francis Collier Goode, the venerable father of Prof. G. Brown Goode, of the National Museum at Washington, died in that city on the 1st instant. The deceased was born in Waynesville, Ohio, August 28, 1811, and was engaged as a merchant in Ohio and Indiana until 1856. Since taking up his residence in Washington he had spent his winters usually in Florida.

CHOICE ROD FOR SALE.—A Nichols split bamboo fly-rod, 10 ft., 7½ ozs. Good action. Entirely new. List price, \$20; will be sold for \$15. A nice Christmas present. Address "Caster," care of *AMERICAN ANGLER*, where the rod may be seen.

FABLES FOR FISHES.

BY GUY HERNE.

THE GALOOT FROM PIKE COUNTY.

"I am the king of the waters," said the Pike to the assembled fishes. "I am also the Pirate of the Rivers and the fresh water Shark. The very surname of the Pike family is a testimonial to the proud preëminence he enjoys. Why, I ask, is the Pike called *Esox*?"

"Because," he continued, answering himself, "*'e socks* it to everything that swims. And that's me. I am built for fighting. Long, slim, swift and with a mouth like a buzz saw. Nothing can live with me. I am the old original Fighter from Bitter Creek with three rows of front teeth and nary tooth alike."

"Whenever I meet with one of your kind I go under," remarked the Bass, instantly carrying his decision into effect by sailing athwart the Pike with dorsal fin erect, thereby exhibiting to the spectators a cross-cut section of the latter's internal economy.

"That fin-ishes him," he reflected calmly.

"I'm a poor mis'able played out turnpike," gasped the dying boaster, turning his ventral fins toward the daylight. "But what would you expect from a fighter that hits below the belt. I never could abide backgammon anyway."

MORAL: You can't sometimes most always gen'ally tell.

LOOKS LIKE BUSINESS.

The Oswego (N. Y.) *Times* has the following, which looks very much as though they were attending to business in St. Lawrence County and setting the rest of the State a good example, and not for the first time by any means. The fact is, any game protector in this State who actually does his duty deserves a medal of the Legion of Honor—and there would be medals enough to go round with a few left over:

Game Protector Leonard has caused James W. Petrie, of the town of Hammond, St. Lawrence County, to pay a penalty of \$200 for illegal fishing in and about Lonesome Bay, at the head of Black Lake. It is asserted that a justice of the peace and other citizens in that region had signed a paper pledging secrecy in regard to the fishing operations.

For some time past reports have been made of the shipment from Rossie and other stations near the St. Lawrence of netted fish, in barrels, marked "potatoes." The fish are said to be the products of illegal net fishing at Chippewa Bay. The game protectors are endeavoring to make express and railroad agents understand that the shipment of contraband fish and game is a violation of the law. Without the coöperation of railroad and express men the fish thieves could not prosecute their business with success. The Chippewa Bay fish thieves have for a long time evaded just punishment, but now there is a good chance for their being entangled in the meshes of the game laws.

The Trout and the Black Bass.—A valuable treatise of these popular game fish. Fully illustrated. Paper. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

A RAINY SUMMER SUNDAY.

BY BEN BENT.

Did any fellow angler ever stand in that glorious amphitheatre at the falls of the Buck-kill, etc. SCULLS.

Just there, Bro. "Sculls," you touch me in a tender spot. *I did.*

I will in due time record when and how, but first a little theology just to start us off fairly after the good, old, time-honored fashion of grace before meat.

Climbing up into my own little unorthodox tree (is there a modern Zaccheus who does not keep a little unorthodox tree of his own in his moral back yard to the topmost limb of which he climbs sometimes to get a broader and wider view of his lord and master?) I overlook the whole theological field and deliberately assert that I do not regard it as wrong *per se* to go fishing on Sunday.

As I settle myself down comfortably in the uppermost, crotch of the highest limb and catch a far away glimpse of the things that are dim in the *chiar-oscuro* of beliefs I don't quite see that going fishing on Sunday stands out in bold relief as the unpardonable sin.

Nevertheless I have not made it a habit of mine to fish on Sundays.

It seems to me that for men who love Nature and the peaceful communion with her which the art of angling affords Sunday is as good a day for fishing as any other, provided circumstances prevent—as they often do—their having any other day for the purpose.

I have generally had plenty of fishing on week days—when I have had any—and have rather gladly rested on Sundays, even in wildernesses where no Sundays grew except such as we brought with us already "potted" in an almanac.

Perhaps for this very reason one occasion upon which I *did* go fishing on Sunday will remain

" . . . indelibly lined

On the tablets of my mind

When a yesterday hath faded from its page."

We were stopping at "Albert's," my friend and I, and it was so many years ago that I regard it as quite a hotel-clerk feat of memory that I should recognize myself at all—but I do distinctly.

It had been a very dry season up to the date of which I write and the streams had been very low and depressed, being closely confined to their beds much of the time.

The fishing, in so far as it bore any relation to the taking of fish, had been very poor, though in other respects it had been quite passable. It had been hot and as many as one very fat man at the little Hotel d'Albert had expressed himself as "disgust mit de whole piziness."

I think it will add an air of probability to my story, as well as give it local color, if I state that the night preceding that particular Sunday was a Saturday night and that there came thereon (and on a train) several anglers of credit and renown from the town of Philadelphia, located, if I remember rightly, in the same State as the Buck-kill Falls.

Now these anglers, albeit good and worthy and pious gentlemen of modest lives spent in a retired spot, had deliberately come there with the intention of going fishing

on Sunday. They were closely tied down to business and obliged to return early Monday morning. It was their only chance and they had come far to enjoy it after their hearts' desire.

On Sunday morning, however, there was mourning in the camp of the Philadelphians, for it rained. A slow, steady, warm, persistent downpour with never a rude gust of wind and never a mutter of even the most distant thunder, but just a steady drip, drip, drip, evidently settled down for an all day job of it.

The Philadelphia party was bitterly disappointed. They had come far for a little sport, and it seemed to them too bad that the rain should come and spoil their one little outing. But they were genial and pleasant gentlemen, so they did not grumble much, but just gathered together all the available musical talent in the hotel and made an early start on Moody and Sankey, interspersed with an occasional college song of the milder sort, and they had piled up on a chair the Psalter, the Carmina Sacra, the Mendelssohn Collection, the Praise of Zion, the Wreath of Gems, the Harp of Judah, Happy Moments and the Sacred Lute, and had fairly started in on an all day musical session, when I, after assuring the company that my voice raised in song was well calculated to break up a brass band, started out in the rain just to take a little walk.

It rained so persistently that I put on my rubber wading-drawers and a long black rubber waterproof coat that hung nearly to my heels. When well away from the house and even out of sight of most of the cottages of the hamlet, I cut across a little plantation and went down upon the stream just to see how muddy the water really was. Bless my soul! it wasn't muddy a bit! The earth had become so dried out that this gently falling rain had been drunk in thirstily as it fell, not a bit of ground bait had been washed into the stream, and the steadily falling drops made no splash, but only a soft-lined ripple on the surface of the pools as they fell with monotonous regularity.

It was a curious chance that I should find on unbuttoning my long rubber coat a very pretty light ash and lance-wood rod (this was before I succumbed to split bamboo) concealed amid its folds, and in my inside pocket a well-filled fly-book, a reel and some fine-drawn leaders.

Since the day when I first ran away from school, I do not think I have felt so keenly the delightful thrill of surreptitiousness running up and down my spinal column as I did then and there as I put together and equipped my rod.

Gently my flies fluttered to the water's surface amid the pattering drops. Eagerly was one of them taken by a hungry trout, deftly was he landed on a shelving shingle of sand (for I had brought no landing net), carefully was he strung on a lithe, long twig (for I had brought no creel), and then another and another shared his fate.

You know all the beautiful windings and hidden nooks and unexpected little pools of that lovely little stream, Oh, Sculls! so I need not describe them for your benefit, and should fail to convey the picture to any in whose minds its outlines were not already fixed by memory; but suffice it to say that I followed its every curve and angled in its every likely pool all during that rainy Sunday morning till at high noon I stood at last "in that glorious amphitheatre at the falls of the Buck-kill," and there amid its wild beauties

and to the music of its ceaseless and re-echoed roar I added a few more to what had already grown to be by far the finest string of troutlets that had been brought to the *Canadensis Hostellerie d'Albert* for many a day.

It was 2 P. M. when I reached the house. The music was still going on in the parlor, and my friend was lifting his fine, high tenor voice in an anthem when I entered. With a dainty touch I swept my single string, but its discordant note broke up the anthem in a row, and a sadder or more dejected party than that quartette of Philadelphians never escaped on an early Monday morning train from any scene of disaster and defeat.

FOR THE AMERICAN ANGLER.

FISHERMAN'S LUCK.

Bass I sing and the casting of the fly,
Ten or a dozen victims—greatest, I!

'Twas early morn—or early, sure, for me;
Say half past nine—when I put out to see

What I could do. The landlord's daughter fair
Wielded the net, the victims to ensnare.

(How well she did it you shall straightway know.)
She steered, of course, and I essayed to row.

"I know a reef," quoth Ethel (lovely name!)
"And never there with fisherman I came

"Except, somehow, by hook or else by crook
We a right goodly mess of fishes took."

"Though I'm no novice, gentle maid," quoth I,
"On me thou seest many a gaudy fly.

"Therefore to that same reef, I prithee, guide,
And thou shalt cook the mess I will provide."

"Nay, gentle sir," quoth she, with modest looks:
"A girl who's been to Vassar never cooks!"

I sat dismayed; she laughed and shook her curls:
"But most of us have mothers." Lucky girls!

Safe at the reef we shortly did arrive.
My stars, what luck!—the water seemed alive!

Scarcely had I sent my coachman to inquire
The hours of Madame Bass when, swift as fire,

Her scales all gleaming in the golden sun,
Herself appeared and cried, "I'm in for fun!"

How many yards of silken line she took,
Et cetera, you'll find in Cotton's book.

Suffice it now to say (strange things befall)
That she, a lady, did return my call!

So the sweet sport went on the morning through,
And Ethel plied her net and caught—me, too!

The tale, too long ev'n now, I amputate—
I kissed her sweet red lips and sealed my fate.

Next month (it has a rather scaly look)
I wed a Vassar girl who doesn't cook.

PAUL PASTOR.

ANGLING WATERS FOR SALE.—A farm of forty acres containing two trout ponds (one eight and the other one and a quarter acres) with connecting stream. One hundred trout per rod per day is the usual score. This property is within fifteen minutes' drive of a flourishing town and ten hours distant from New York City. The ponds are fed by never-falling springs. There is a good house and barn on the farm and a trustworthy man who protects the fish for the rent. Address for terms, etc., "Owner," care of THE AMERICAN ANGLER, at which office a map of the waters and adjacent grounds may be seen.

SAILORS BEDEVILED.

EDITOR ANGLER:—I perused the sailor's yarn about the octopus, by "Ben Bent,"* in the last issue of THE AMERICAN ANGLER, with the greatest possible interest. I am familiar with octopi in all their horrid variety. No other pie—not mince pie itself—is such a *bête noir* to me. I have met the varmints on the Atlantic and studied them on the Pacific, from the baby cuttlefish with its diffusive ink-bottle to the giant squid, forty-two feet in length, whose plaster reproduction swings from the ceiling of the U. S. National Museum at Washington, and I make bold to declare that not one word of that remarkable tale of Bent's was stretched beyond the limit of credibility, not a syllable distorted by aqueous refraction. From the circumstantial evidence presented, there was manifestly no chance for Munchausen or Mulhatton. The terrible incidents of the occurrence must have been burned into the memory of the witness and narrator as lurid characters are sometimes photographed on the human body by the lightning's flash. The delineation of the combat, from commencement to finish, shows a wonderful familiarity with the habits and movements of the repulsive creatures, for which the author ought to be awarded full credit.

Notice that the sketch is being widely copied by the press, which indicates its contributive value to pantology. To my mind a sublime acme of word painting is reached in the description of the tangle of loose hamper on the vessel's deck by the six irate creatures which came aboard. The most active eel never made so bad a mess of the bob-lines in the bottom of a fishing boat. It would require a lively play of the imagination indeed to keep up with the incessant and interminable activity of those four dozen sinuous and insinuating arms. The casual and inadvertent proceeding which first aroused the octopus from his lair is too natural and simple to be a pure invention. The resulting onset of which the unsuspecting tar was first admonished by the swish of the far-reaching and whip-like tentacles playing about his ears; the subsequent attack on the schooner and the sympathetic accord with which the foul-limbed clan gathered to the fore; their persistent and tenacious groping after an unseen prey whose presence in the body of the vessel some subtle super-sense detected; the final withdrawal of the baffled depredators, and the heroism exhibited in picking the floating flotsam out of their very clutches, as it were; this is fine literary as well as scientific work of which even Victor Hugo might be proud; and not only this, but it is an absolute endorsement of what Victor Hugo himself wrote so long ago and everybody disbelieved. Verily, the kraakens, octopods and cuttlefish of the vasty deep are no longer myths. To the heroes of "Ben Bent's" recital those which assaulted the schooner as she lay at anchor were most substantial and painful realities. But there are sufficient other ocular evidences at the present time of the existence of strange creatures which were once much written of but seldom seen.

* "Ben Bent" desires us to say that he is willing and anxious to assign, transfer and make over all the complimentary commendations in the above letter from Mr. Hallock to the real author of the octopus yarn whenever he shall have the daring and hardihood to claim this wild offspring of his imagination.—ED. AM. A.

In 1874, you will doubtless remember, a photograph was printed of a giant squid or octopod which drifted ashore on Newfoundland; and this photograph has served as a standard portrait of that genus of marine monsters ever since. None others of such proportions have been found as yet, but sections of limbs of incredible size, indicating specimens of at least fifty feet in length, have been discovered on the landwash of the Newfoundland and Pacific coasts. They are of many colors and varieties—white, red, gray, brown and spotted, and their range extends into arctic waters as well as into tropical seas on both hemispheres of the globe. Some have ten arms, and others eight. Some are oblong, with their arms all wrapped in a bundle on their bow end, like the stalks of a raddish, and others are circular like a cart-wheel. They have a fiendish, supernatural eye, and a vicious, relentless, predatory spirit. They are the very incarnation of malice and evil. That so circumstantial an account of their behavior and malevolence should at this time be forthcoming for edification through the columns of THE ANGLER impresses itself upon a thinking and reading public. It startles the ocean traveler and seafaring man. And it will make all victims of *mal de mer* most cautious how they lean over the sides of low-bearing vessels. Our thanks are due to "Ben Bent" for his opportune narration.

Washington, Nov. 29.

CHARLES HALLOCK.

A MYSTERIOUS FISH.

It is much easier to tell what we do not know about the herring than to record what we do know. Familiar as most of us are with the fish in its many posthumous preparations, it is somewhat humiliating to confess how slender is our knowledge of the living creature and its way. So delicate, moreover, is the organization of the herring that its attempted segregation in a marine aquarium has proved to it, but too frequently, the gate of death. Now, however, that a school of herrings have been successfully captured and inclosed within a tank in the Berlin aquarium, we may venture to hope that, if they can only be kept alive, light may be thrown upon some at any rate of the many interesting problems concerning their habits which have so long awaited solution.—*Time*.

"OUTING" FOR DECEMBER.

Outing again presents its readers with an attractive number, both in point of literary merit and illustration. "A Romance of War" and "A Mediæval Romance of the Nineteenth Century" are pleasant reading and are agreeably supplemented by one of Captain Coffin's amusing sea yarns called "Forecastle Philosophy; or, The Way of the Wind," and by many other good things, among the best of which is a breezy hunting romance by Captain Thos. S. Blackwell entitled "Reminiscences of Irish Sport."

Messrs. W. D. CHAPMAN, SONS & Co., the large Rochester dealers in fishing tackle and spoon bait, announce that Mr. John H. Carnegie, formerly partner and manager of their Canadian business, has been admitted as partner in their American firm, to take effect at once, and the firm name will hereafter be as above. Their office and sales-room will be located at 121 State Street, Rochester, N. Y., and they have considerably increased their shipping facilities.

Notes and Queries.

TARPON TACKLE.

BY W. H. WOOD.

In response to numerous inquiries from the uninitiated as to the proper tackle and appliances required in fishing for tarpon, I would suggest the following as the best adapted for the purpose:

A strong bamboo (so-called) striped bass rod, in one piece 6 to 7 feet long, made with enlarged handle or butt, fitted with three guides, and having the movable reel-band toward the butt; the reel to be from 12 to 14 inches from the end of the rod.

Beside such rods, I have provided myself with split bamboo rods 6 feet 8 or 9 inches long, but made in two pieces, the handles or butts being one piece 16 to 18 inches long, and the balance of the rod in another piece.

The reel should be a good striped bass reel, say No. 3.0 or 4.0, that will hold 500 or 600 feet of the best No. 15 or 18 linen line; either of these will be of sufficient strength, when uninjured, to capture the tarpon when hooked, provided the angler follows the fish.

In fishing for tarpon snells about 3 feet long are indispensable, owing to the sharp edges of the bone-plate at each corner of the mouth of the fish.

When sharks, sawfish or sting-rays are not troublesome, snells made of chain are preferable, but when the above-named foul fish are abundant I should advise the use of a linen or cotton line snell, say 3 feet long, and about 0.15 of an inch in diameter, made with an eye spliced in each end, where a link of plumbers' brass safety chain is used to connect the snell to the knobbed hook; or, if a ringed hook is used, then one end of the snell must be spliced through the ring or eye of the hook.

These linen or cotton line snells are apt to be cut off by the cheek-plate of the tarpon, as well as by the teeth of the foul fish, which last are cheaply gotten rid of at the expense of a hook and a line snell.

The hooks used should be the 10.0 O'Shaughnessy, either knobbed or ring-eyed.

It is also important that the angler for tarpon should be provided with a substantial gaff hook, made in the shape of a semi-circle of 4 inches in diameter, with the point extending one inch further parallel with the handle, which should be a hoe handle or its equivalent; the handle side of the hook may be extended and secured to the handle with rings or rivets.

The angler should provide tarpon thumb-stalls or a leather brake on the reel.

Also, provide some fine copper or annealed brass wire to secure the bait on the hook and snell.

New York, December, 1887.

THE JEWELLER'S REVIEW, issued every Saturday and edited and published by John W. Senior and J. J. Fogarty is, both typographically and otherwise, a model trade pamphlet. Just as the holiday season is approaching its pages are particularly interesting and suggestive.

THE "PECULIAR" FISH OF TWIN LAKES, WIS.

You may remember I promised to send further word to you about the "peculiar" fish seen at certain seasons in Twin Lakes, Wis., on the line of the M., L. S. & W. Ry.

They have recently made their appearance again and in great numbers—so I am informed—and Mr. Crosby, of the Twin Lake Resort, has forwarded several specimens here. We find they are in every way identical with the fish found in Third and Fourth lakes at Madison, Wis.

The Superintendent of the Hatchery at Madison says: "Professor Forbes of Illinois pronounced them nothing more than overgrown herring."

I am unable to send you specimens just now, but will do so if you desire as soon as they can be obtained, but from all I can learn they are either herring or a mongrel whitefish and herring. They resemble the whitefish of Lake Michigan with the exception of the mouth.

The specimens sent were from 12 to 14 inches in length, a dark or purple back, and weighing from 1 to 1½ lbs. They are taken only with net or spear.

Milwaukee, Wis., Dec. 1.

ARTHUR HOLBROOK.

FISH DYING BY THE HUNDREDS.

Since the year 1854 until the present the Ohio River has never been so low and remained so for such a long time. The water has a very disagreeable taste and odor.

The Ohio has not been navigable since the middle of June and the fish, particularly the bass, are dying by the hundreds.

Some attribute it to the impurities of the water, but I cannot say whether a fish would suffer sooner than a man.

Others claim the blasting done by the workmen on the Cumberland Branch R. R. is the cause of their death on account of the shock of the explosion.

I do not know if the depopulation of the fish is general along the Ohio, but such is the case about Steubenville.

I will soon send you in an account of our Canadian fishing tour.

FLY ROD.

Steubenville, Ohio, December 3.

A QUESTION OF ORTHOGRAPHY.

EDITOR AMERICAN ANGLER:—I read in your last number an interesting account of grayling fishing on the Hersey. I judge from the subject and from the style and from the signature and from my inner consciousness that it was written by an old friend and fishing comrade of mine and of the late lamented Gaffer Green. But there was something wrong about it. It was signed "Robin Rough." I should be loth to think that he didn't know how to spell his own name, since he has yanked onto that traditional "thousand and a year." I should be equally reluctant to think that your compositors would read "Ruff" as "R-o-u-g-h." I have known him for years, and I can testify that he lacks neither "refinement, gentleness nor polish" (*vide* Web. Dic.), and I protest against any such hideous misnomer as "Rough." It ruff-les my feelings.

GUY HERNE.

Subscribe for THE ANGLER.

THAT LAKE WORTH SHARK STORY.

In the issue of *THE ANGLER* dated Nov. 5th, under the caption "Turning the Tables," we printed, with some brief comments, a *Herald* dispatch from Florida detailing the destruction of a boat and the killing of a man named Hamilton by a school of infuriated sharks. Thanks to the courtesy of our friend, Mr. Charles A. Lane, whose winter residence is near Jupiter Inlet, on the East Coast and on the line of the mail route mentioned, we are able to give our readers the exact facts in the case as detailed in a personal letter to him, which we quote:

Mr. C. A. Lane—DEAR SIR:—Yours of the 8th just received and clipping noted. It is founded on facts, but our people are indignant at the way imagination has wrought them into sensational absurdities.

The *Daily News-Herald* printed the following article, which is exactly as was written at the time by myself for publication:

LAKE WORTH.

This quiet community has just been startled by the news of the horrible death of James E. Hamilton, one of our most worthy young citizens. He was the mail carrier on the route between Lake Worth and Miami, and was devoured by sharks while crossing Hillsboro Inlet.

Mr. Hamilton was an athletic young man and carried the light mail between the two places on his back, walking the ocean beach the greater part of the entire distance, which is over seventy-five miles.

The dread of the mail carrier or visitor to Miami are the Hillsboro and New River Inlets, which have to be crossed by small boats; here the dark waters of the everglades empty into the ocean with tremendous force in the rainy season, and if the ocean is rough the meeting of the heavy seas against the outpouring current renders crossing difficult and dangerous. Sharks abound in these inlets.

Mr. Hamilton set out with the mail on Tuesday morning from the Orange Grove House of Refuge and was due at the New River Station, twenty-five miles distant, in the afternoon, but never arrived.

The mail and his clothing were found at Hillsboro Inlet on a tree, to which his boat for crossing was generally tied, but the skiff was found on the other side, where it had been taken and left by a tramp who had crossed some days before.

Mr. Hamilton doubtless attempted to swim across the inlet for his boat and met his death in the attempt. No remains have been cast up by the sea and it is but too evident that he was eaten by the monsters which infest the place.

The sad end of the young man in the prime of life in that lonely locality, with its awful mystery yet horrid certainty of all the terrible details, has cast a gloom over the people here and a damper over the business of carrying mails to Miami.

This article, as it appeared in the Jacksonville paper, is a truthful account of all that was known or ever will be known, and is shocking enough, particularly to the relatives of the deceased, without distortion or exaggeration.

The account of the attack upon the man in the boat, biting off the oars, leaping out of the water ten feet high and breaking the boat to obtain their prey, etc., is a stretch of imagination which is contrary to the facts and unwarranted by what is known of sharks, either through natural histories or by actual and familiar knowledge of their habits.

That he was seen by Mr. Waring is untruthful. No one here knows of any such man. The nearest inhabited spot is New River Station, eight and a half miles from Hillsboro Inlet, and no person had passed either station, which proves that Mr. H. was the only person between the two points at that time. The exact manner of his death is and will always remain a mystery, but the fact that no remains

whatever have been cast up by the sea is generally accepted as conclusive that he was devoured. Whether or not he was first drowned will never be known.

I was in company with Mr. H. from Miami on the last trip he made; heard him caution a tramp at Mr. Andrew's Station not to take his (Hamilton's) boat if he went on before he (Hamilton) came back. He did take the boat, however, and admitted the taking when arrested, claiming, however, that he had permission. He is now on his way to Jacksonville to be turned over to the United States authorities on the charge of obstructing the mails.

From the above you can know as much about it all as any of us know. At its best and without exaggeration it is a sad, sad affair, and we sympathize deeply with his relatives.

ALLEN E. HEYSER.

Lake Worth, Fla., November 14.

BASS FISHING IN THE CHEAT RIVER.

Mr. A. F. Dresel, of Baltimore, an ardent sportsman and intelligent observer and writer, forwards us the following excerpted from the *Baltimore Home Journal*, detailing the methods he approves of for Cheat River bass fishing:

Though the bass and the salmon caught in the Cheat River above Rowlesburg, West Virginia, are not generally as large as the Potomac bass, they are fully as good game fighters, and hard work only will get them. The principal style of fishing in Cheat River is to do as the fishes do—take to the water. Wading waist deep in a running stream where the rocky bottom is so uneven that the fisherman must divide his attention between the sport and the task of keeping his footing on the slippery stones is no easy task, but few fish are caught in Cheat River without labor. The sportsman who contemplates lying or sitting at ease on the river bank and pulling out enormous catches had better stay at home and get his fish from market.

He goes into the water thus equipped: Rod and line and reel in good working order, and several spare hooks stuck in the band of his hat; bait bucket filled with live minnows and fastened to his waist by a string, to let the bucket float and keep the bait well supplied with fresh water; fish string fastened to his belt or other part of his clothing in case he catches any fish. Thus equipped he is ready for business.

Fastening a minnow on his hook in a way that will give it as much freedom of movement as possible, he picks his way out carefully from the bank into as deep water as he cares to venture, and casts toward the middle of the stream. Then he waits. Suddenly he feels a slight twitch on the line, which begins to run out slowly at first. The fish is not yet fast, but when the line tightens and begins to run off rapidly it is time to call a halt. A slight jerk is sufficient. The line feels as if there was a small propeller at the end of it, and a fisherman knows the capacity of a Cheat River bass for resistance. It fights until it is lifted from the water. Put it on the string and drop it in the water, and it will continue to make occasional struggles as long as it has any strength left. A little experience will show the difference between the bite of a bass and that of a salmon. The former will fight to the last. A salmon makes a desperate muss for a short time and then gives in to the

inevitable. When good and fast a tight line should be kept on both, for they know how to wriggle off a slack one.

If the fish is extra large and pulls unusually hard, the best plan is to make for the shore and land it. Standing in the water trying to get a big fish off the hook is something that even an old fisherman on the river will seldom risk. He is apt to miss his footing and get a ducking, or worse still, lose his fish. A minnow cannot survive the attack of a bass or salmon, and even if the fish should get away, a fresh bait is necessary for the next cast. The swift-running ripples and eddies just below are generally the best places for wading, but the deep pools for boating are well stocked with fish. They are mostly of the larger kind, however, and will not often be taken in by such a trifle as a minnow. Either they are wiser than their kind or they are content to prey on the smaller fish.

The Cheat River fish change their diet often. When they are biting freely they will prefer minnows; again they will pass by a minnow and grab at a crawfish; sometimes they like cricket or grasshopper; and the time comes when they will have none of these, but can only be tempted by a bright troll with gaudy feathers. Trolling is not a profitable amusement. Pulling a boat down stream is easy enough, but going up is where the trouble begins. An elderly English sportsman, who came to Rowlesburg some years ago, regularly once a year, had a habit of opening the first fish he caught to see what it had been feeding on and get a clue as to the kind of bait he should use. Rumor has it that on one occasion he opened his first fish and found a collar button inside. Not having a large supply of these useful articles on hand, he stuck to minnows.

The thing most necessary, next to knowing how to land a fish, is to be able to keep the hook from getting fast. This cannot always be avoided, but a little trouble will reduce the danger to the minimum. The idea is to keep the bait from resting too long in one place. A minnow, left to its own devices, will make for under a rock. Once there, pulling and jerking the line will result oftener in leaving the hook behind or killing the bait than it will in freeing the hook with the bait alive. Sometimes the water is sufficiently shallow to permit of wading out to where the trouble is. To do this one must pick his way very carefully. He is apt to leave a submerged rock where the water is three feet deep and step into a very deep hole.

The fisherman who can brave all these disadvantages and make a good catch is entitled to a long night's rest at the farm-house where he has left his extra luggage. There he can exchange his wet clothes for dry ones and eat a hearty meal. Then, over a pipe, he and the farmer can discuss politics, crops and timber for a while. Lastly, he goes to bed, and if not too tired to dream, his slumbers will be visited by panoramas of enormous fish in countless numbers. Two precautions only are necessary to get along with the host and the bed: Never disagree with the farmer's politics and do not let the night-cap be sufficiently large to change the black bass into a wriggling green serpent.

The Fishes of the East Florida Coast.—Contains a description of the different fishes caught on the Florida Coast, with their habits, modes of capture, tackle, baits, etc. Eleven illustrations. Pamphlet form. Price 25 cents, postage free. Address THE AMERICAN ANGLER, New York.

FISHING NOTES.

A dispatch from Gloucester, Mass., dated December 4th, says:

The schooner H. B. Griffin, from the Grand Bank, arrived to-day with 240,000 lbs. of codfish. This was her third trip this season. Her aggregate catch was 800,000 lbs., the largest amount ever landed by any vessel of the New England fishing fleet.

It is reported from Penn Yan, N. Y., that Game Protector Sheridan, on Thursday night of last week, captured nine nets near the end of Bluff Point, Lake Keuka, and on Sunday night he captured eleven more.

A petrified fish found on the top of a mountain in Oregon 3,000 ft. above the level of the sea is about seventeen and a half inches long and six inches through the widest or thickest part. The outlines of the tail are perfect and the small rib bones are as distinct as though they had just been placed there. The upper and lower fins are also plainly seen and the head has just retained its shape. The vertebral column is also clearly defined. It is not unlike our codfish.

This has been a great season for the fishermen on the Great Lakes. From Sandusky, Ohio, it is reported that pound-boats and the steamers continue to come in with enormous catches of fish, chiefly herring. Some days the lift amounts to 150 tons, and they will keep the twine in the water until the last lift can be made. The whitefish being caught are the finest for years. It is estimated that the profits of two of the largest fish houses will aggregate \$100,000 on this season's business. Their employes are paid \$12 to \$25 per week. There are seven steamers, many tugs and almost innumerable pound-boats engaged in the fisheries there.

AS IF YOU LOVED HIM.

Old Walton gave instructions how to prepare a frog bait for pike in a manner which demanded deft manipulation in order to prolong its life and usefulness. He enjoined upon the angler to handle the victim "as if you loved him." I notice in your last issue some directions of like sort from your correspondent "L." and which a member of the Humane Society would pronounce transcendent in cruelty. The bait may be killing to pickerel, but what might the frog have to say to it all.

CREVE COEUR.

"NIAGARA AND BEYOND" is the attractive title given by the Michigan Central Railroad people to an artistically illustrated and elaborately compiled pamphlet from the press of Rand, McNally & Co., of Chicago, descriptive of the wonderful scenery and admirable sporting localities opened up by this road for its patrons. Anthony Trollope's description of a visit to Niagara Falls forms the introduction to the volume and this is followed by excellent articles by good writers in French, German and English, descriptive of scenes along this route to the Great West. The attention paid to a proper setting forth of the various good angling facilities to be found along the line shows clearly that the Michigan Central, like the other great thoroughfares of the nation, has a realizing sense of the importance of making known its claims in this direction upon the patronage of a class that yearly pays large sums into the coffers of the railroads and is moreover a constantly growing class.

Fish Culture.

Conducted by Seth Green.

[All questions relating to practical fish culture, habits of fishes, etc., will be cheerfully and promptly answered under this department heading.]

SHALL THERE BE SHAD IN THE HUDSON?

At the last session of the legislature of the State of New York the following law was passed:

[Chapter 407, Laws of 1887.]

AN ACT for the preservation and propagation of shad in the Hudson River. Passed May 19, 1887; three-fifths being present without the approval of the Governor.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. No person shall take any shad from the waters of the Hudson River above the northern boundary line of Westchester County by means of any seine, net or any other device whatever, from sunset on Saturday to sunrise on the following Monday, between the fifteenth day of March and the fifteenth day of June in each year, and any person violating any of the provisions of this section shall be deemed guilty of a misdemeanor and in addition thereto shall be liable to a penalty of fifty dollars for each offence.

§ 2. This act shall take effect immediately.

This law under the present wording is almost practically useless and the statute books of the State of New York would be about as well off if it was not entered therein. An effort was made last season, as has also been done before, to have a law passed which would leave the river unobstructed for the free passage of the shad during the time mentioned in the above act, but through the influence of the stake net fishermen the law was so modified as to exempt from the law all that part of the Hudson River lying below the northern boundary line of Westchester County. As all who are familiar with the matter know that nearly, if not quite, all of the netting which does the most toward preventing the shad from ascending the Hudson is carried on below this line, and therefore the object of the framers of the law, as originally drawn up, is practically killed.

This is much to be regretted and it is to be hoped that a new law may be enacted which will compel the stake netters to raise their nets for a few hours each week and allow the shad which are working their way up the river to their spawning grounds at that time to go on unmolested, where a portion of them at least would be taken for the purpose of artificial propagation and in time yield an abundant return to the fishermen.

Last season we were able to turn into the Hudson River 3,822,000 shad fry, which, though an increase over any season since 1883, is not one-tenth of what we would be able to do if the shad were given even a little chance to get up to the head waters.

It is difficult to make net fisherman see how a fish that gets by their nets will ever benefit them any and therefore they bend all their energy toward capturing every fish possible.

When one witnesses the great fence of netting that is stretched across the Hudson River during the spring of the year the wonder is not so much that so many get by as that any get by at all and if it was not that the steamers

kept a channel open and that the river was subject to heavy freshets the fish that succeeded in getting up past the northern boundary line of Westchester County would have to be expert dodgers with a deal of good luck on their side to help them through.

I hope that some way may be found before the close of the coming session of the legislature to remedy this practically "dead letter" law.

SETH GREEN.

SEND IN YOUR ORDERS EARLY.

The regular annual season for receiving applications for fish to be distributed from the Caledonia State Hatchery opened December 1, 1887, and will continue until March 1, 1888.

I desire to impress upon all parties wishing to obtain a supply of fish from the above source for the purpose of stocking public waters in the State of New York the importance of having their applications entered on our order book in time, as it is absolutely necessary for us to have a designated close time in order to make a division and distribution of the fish at our disposal.

We offer for distribution this season the young fry of salmon trout, also called lake trout; the brook or speckled trout, the brown or German trout, and the California trout; also adult or breeding fish of the following varieties: small-mouthed black bass, rock bass, yellow perch, pike and bullheads.

Parties wishing application blanks with full directions can obtain them by addressing the undersigned, to whom application should be made.

SETH GREEN,

Superintendent,
Rochester, N. Y.

PROTECTION WANTED AT CHAUTAUQUA LAKE.

Considerable complaint is heard along the lower part of the lake about the "fish hogs" around Bemus and Long points spearing fish at night. It is an outrage and a shame that such a thing is allowed. Anathemas are heaped upon the heads of the offenders and threats of arrest are made against them; but there it ends. There is a law against the taking of fish in the waters of Chautauqua Lake otherwise than with hook and line, and that between the 1st day of June and the 1st of January, and yet this open violation of the law is allowed to be committed by those whom good angling most do benefit—the hotel proprietors. The market fishermen have boldly violated the law all summer, and the game constable—if there is such an officer—should do his duty and make a few arrests, or give way to some one who will enforce the law.

The *Jamestown Journal*, on the same subject, says: "If the sheriff's department is not able to stop this illegal practice, an effort will be made to have a State game and fish protector appointed for Chautauqua Lake. This is the most effectual course, and should be tried anyway."

There is also some talk of organizing a fishing club here for the better protection of the fish in the lake, and the sooner this is done the better, for if this should be an open winter there will be more or less spearing done during that period.

Tom.

Jamestown, N. Y., Dec. 5.

A SHAD THAT LOST ITS RECKONING.

For a shad to be taken in the Hudson River as late (or as early) as the latter part of November is enough to make the oldest "scale-scrappers" on the stream stare in astonishment, but the *Times* records the capture of one, a female, weighing three and a half pounds, near Dobbs Ferry on Tuesday of last week. The *Times* says the fish was a mature roe of three or four years' growth, and was caught in a seine with a lot of perch and other fish. But how it got there at this season of the year is a mystery. The first shad of the season in the New York market begin to arrive from Florida about the middle of December. Early in January they reach Savannah in their annual migration northward along the Atlantic coast, and about the last of January begin to arrive from North Carolina. In February they reach the Delaware Breakwater. They are not again met in large quantity until they reach the Hudson, which they endeavor to do in time to celebrate St. Patrick's Day.

This year's run came late, however, the first shad of the season having been caught off Keyport, N. J., April 3. The shad season in New York ends with the last receipts from the Connecticut River, whence the best fish of the season come to market. The average weight of the Florida shad is four pounds, from which it increases rapidly in its northern tour to Delaware Bay, where the average weight is six and a half to seven pounds. Here, in North River, the average is lowered to four and a half pounds by the presence of a large number of smaller and lighter fish. In Connecticut River they again reach an average weight of about five and a half pounds. Within the last three or four years a few shad have come to market from as far east as Rockland, Me., and the neighborhood of Boston, but the demand for them ceases shortly after the local season is over.

Shad have been caught in the North River as early as February 17, but that was in consequence of an extremely open winter, and this forerunner of the season was soon followed by the regular run. But the Dobbs Ferry shad cannot possibly be a forerunner of an early migration, for winter is yet to come. The only plausible explanation of the mystery is that, deluded by the continued warm temperature of the water, the fish has turned shoreward from the Gulf Stream a thousand miles northward of its proper route at this season.

THE FULTON CHAIN HATCHERY.

The Boonville (N. Y.) *Herald* has the following:

E. L. Marks went to the Fulton Chain Hatchery Friday of last week, taking with him 400,000 salmon trout spawn which he had obtained at the State Hatchery. The hatchery is now well supplied with the spawn of the speckled, salmon and brook trout and by next spring millions of fry will be placed in the lakes and streams of the Fulton Chain region. The Board of Fish Commissioners, through their capable superintendent, Seth Green, are doing much to make the Fulton Chain Hatchery bring forth the best results and their efforts are fully appreciated by the great army of anglers who consider this section their favorite fishing ground. E. L. Marks and assistants are also deserving of commendation for their diligent work in making everything count for the public good. The Fulton Chain promises to be unrivaled as a public fishing park. Nature has done much for these waters and the artificial hatching of trout will render them still more attractive.

THE ALBATROSS.

The report of the recent sailing of the steamer Albatross for her new field of labor in the Pacific Ocean reminds me of a very interesting tour of inspection I made of the vessel two years ago when she was working in the Southern Atlantic and had put in to Nassau in the Bahamas for a few days. She was then, as now, commanded by Lieut. Com. Z. L. Tanner and was built, I was informed, especially for the work in hand largely in accordance with plans and suggestions made by Commander Tanner and others whose wide experience had taught them just what was wanted.

In the first place she is so modeled as to "go astern" with almost as much ease and precision of steering as when going ahead. Her bow and stern are both well up in the air, giving plenty of freeboard and tending to make her dry and comfortable when "hove to" in a sea way. This and the ease with which she can be held in position when lying to are important points, as very much of her work is done while in this position.

The Albatross was at that time in the joint service of the Fish Commissioners and the Hydrographic Bureau, a certain proportion of the coal and equipment being furnished by each with the understanding that a *pro rata* amount of work should be done in the two several directions. In this connection I remember creating some amusement, when dining with the wardroom mess one day, by asking if the officer in command of the deck when wishing to heave the fish trawl for deep sea dredging or the deep sea lead for hydrographic sounding was obliged to ask the engineer through the speaking tube whether he was burning Fish Commission coal or Hydrographic Bureau coal before determining which branch of scientific investigation he ought to pursue at that moment.

I observe that among the officers and scientific gentlemen who are detailed for duty on the present expedition are several who were then attached to the vessel and among them Lieutenant Howard Waring, who had some years before been attached to one of the numerous Arctic expeditions and had, in company with a fellow officer, been left behind in some way and was obliged to spend an entire winter in one of the most northern of the native settlements, living in a snow "dug out, subsisting on an exclusively fish diet, in which the variety consisted solely in the fact that some of the fish had been left over from the previous year and was *absolutely* rotten, while some of it had been caught during the current season and was only partially decayed. I remember that among the many curious things he told me of his experiences during that time of trial was this: He said that he and his fellow officer had their bunks or sleeping places adjoining, while the natives were scattered about the place and, as there was absolutely nothing to do and it was practically impossible to go out of doors, they often did not get up for weeks together. During the first two weeks he and his brother officer talked nearly all the time, but when about that period had passed each had so absolutely absorbed all that the other knew or had to talk about that, in the utter absence of any events tending to form fresh topics of conversation, they, by mutual consent, relapsed into absolute silence and often did not speak a word to each other for days together. Their

existence became eventually one very nearly approaching suspended animation, both mind and body relapsing into a condition of torpor allied to coma.

In speaking of their daily life he said that when obliged to attend to the calls of nature which happened about once a week, they forced their way through the thick overlapping masses of heavy skins and furs which were hung many deep over the door of the room, out into a sort of ante-room more or less sheltered, in which the sledge-dogs were kept, and then found it necessary to fortify themselves during the operation by building up about them barriers of ice blocks to protect themselves against the ravenous hunger of these animals, who would otherwise not permit the act to be completed before devouring the results. The temperature of their living room was from 80° to 90° above zero and there was absolutely no ventilation whatsoever except such as might be assumed to take place through the masses of snow and ice which covered them many feet in thickness. He said it was, and it must have been, a horrible experience.

But to return to the Albatross. The most casual examination of her mechanical and scientific "outfit" is sufficient to convince one of her absolute fitness for the work mapped out for her to do, and must at once be recognized as the outcome of a vast amount of practical experience as well as a considerable combined ingenuity of invention. Means are everywhere adapted to desired ends with the most careful skill, and any marine secret of nature that can hold out long against such an array of investigating paraphernalia must indeed be a dark one. Amidships is a commodious laboratory, and beneath it a deep hold or storeroom for storing the collections. The laboratory is fitted up with all necessary appliances for examining and preserving specimens brought up from the deep. On one shelf, preserved in jars, are many curious trophies of the deep-sea work in the Atlantic. The sea lily, a slender creature related to the star fish, that has an anchor with which it fastens itself to the bottom, and other wonders of the deep. There are rifles and fowling pieces for the naturalists when they go ashore, a bomb-gun for shooting whales, sounding apparatus and ingeniously devised dredges for bringing up specimens from enormous depths. A row of glass globes hanging from the ceiling, half filled with water, have a story. These globes, supposed to be air-tight, were used as floats and attached to a line and sent down into the sea. When they were brought to the surface it was found that the great pressure at a depth of 2,000 feet forced the water through the glass, or found defective spots in the glass that cannot be discovered under ordinary conditions. The quarters provided for the officers and the scientists are cosy and inviting.

The Washington *Star*, in announcing the departure of the Albatross for her new field of research, says: "Commander Tanner expects to reach the California coast next May. On the way around there stops will be made at different points, aggregating, as it is calculated, six weeks in all. This time will be used by the scientists in making shore collections, zoological, botanical and geological. Professor Lee said to a *Star* reporter that the prime object of the trip was to make investigations concerning the fisheries, but advantage would be taken if the opportunities

offered to do other work in natural science, and to settle, if possible, some doubtful questions. Commander Tanner thought that it would require at least three years' work off the Pacific coast of the United States to go over what was intended. The Albatross goes out without any definite period fixed as to its return, but it is not probable that the vessel will be seen in the Atlantic again for three or four years. It is deemed important to carry on investigations not only in the latitude of California but off the Alaska coast. The vessel will, of course, touch frequently at ports on the Pacific side, and be in constant communication with the Fish Commission. It is probable, too, that from time to time other scientists will join her for the purpose of doing special work. The scientific outfit of the vessel is declared by those who have examined it to be the best that was ever put aboard a vessel."

BEN BENT.

Fishing and Fishing Waters.

[For detailed information as to rates of fares, time tables, etc., apply to the General Passenger Agents, whose names and addresses precede each printed report of fishing.]

(Reached via Louisville and Nashville Railroad.—C. P. Atmore, G. P. A., Louisville, Ky.)

Mr. A. P. Trenchand, a gentleman from New Orleans very fond of fishing, left here about 8 o'clock Sunday morning for a few hours' fishing. He paddled up the railroad company's canal, which led him into a very fine fishing place called Cedar Bayou, one of the finest in this vicinity, including so many as Lake Pontchartrain, Lake Borgne, Bayou De Por and many other places. Mr. Trenchand returned home at 2 o'clock with fifty-eight green trout (large-mouthed black bass) of the finest size, one redfish (channel bass) weighing ten pounds and forty-six perch. Minnows were used for the trout and redfish, small shrimp for the perch.

Mr. Nick Scheneville, a very accommodating club house keeper here, left last Thursday morning at 7 o'clock and returned with 118 perch and three green trout. He fished in Bayou De Por with shrimp.

J. D.

Chef Mentour, La., November 29.

THE ERIE RAILWAY'S NEW STATION AT JERSEY CITY.—Passengers by the Erie Railway have for several months past noticed the steady progress of erection of the new station and train shed at Jersey City, which are now completed and will be opened to the public for the first time to-day (December 4.) The cost exceeds \$200,000. The station building proper is three stories high, of the English Gothic style of architecture, treated in a free and unconventional manner, and is replete with all the modern conveniences; it has a frontage of 127 ft. on Pavonia Avenue and a river frontage of 120 ft.; the foundations are of hard brick laid in Portland cement, coped with North River stone four inches thick; this rests upon numerous spruce piles fifty feet in length. The exterior of the building is ornamented with four towers rising to a height of 115 ft.; the interior is finished in hard woods in their natural colors. Light is afforded by spacious windows of cathedra stained glass. The train shed is 140x600 ft. The first floor of the station has a general waiting-room 66x100 ft., a ticket office, ladies' waiting-room, restaurant, smoking-room, lavatories, etc. The second floor is devoted to offices for use of the General Superintendent, Division Superintendent, Roadmaster and other officers connected with the transportation department. A gallery encircles three sides of this floor, by which access is had to the offices named. The third floor will be occupied by the Car Accountant and his staff. The system of ferry checks to other than those using the ferry only has been abolished and passengers now proceed to the boats directly from the trains.

ANGLING NOTES FROM ABROAD.

Our English angling cousins appear to derive very considerable social entertainment from the meetings of their angling societies. For instance, according to the *English Fishing Gazette*, at a recent monthly meeting of the Manchester Anglers' Association Mr. C. F. Brennan read a paper entitled "The Irish Question; or, a Wild Week in the West," which was illustrated by numerous photographs taken by Mr. Brennan, and shown by means of the magic lantern by Mr. W. I. Chadwick, honorary secretary of the Manchester Photographic Society. There was a large gathering of members and friends, and the views, together with the paper, which was a very lively and interesting one, was thoroughly appreciated and enjoyed.

Mr. Brennan in his paper gave a humorous account of a trip to County Wicklow, taken last summer by himself and two other members of the association. Having received from a fellow angler in Ireland a hearty invitation, which was duly accepted, they formed themselves into a small committee, consisting of a chairman, vice-chairman and treasurer; and, all preliminary preparations being completed, they began their journey on the evening of May 27 last. The party proceeded by way of Holyhead to Kingstown, from which place they subsequently traveled by train to Bray. Here they were met by their host. The party then drove to Roundwood, situated on the Annamore, where a short time was spent in fishing the river. The Annamore is a fine stream, which was described by Mr. Brennan thus: "The language at my command is too feeble to do it justice. I shall simply say it is a charming stream, sex female, Christian name Anna, and like most of her sex, married or single, she is, I think, a decided flirt—for, rising some few miles to the north at a place called Crochan Pond, she glides down through Luggala, and unites herself with Lough Tay, and then runs off to Lough Dan, with which she stays for only a short run of two miles, and then meanders away on her own account, leaping in places from rock to rock with all a young maiden's grace and freedom, and at times stopping in the deep pools and gorges to listen to the music of the birds and the drowsy humming of the insects, and then again rushing off with a speed made wilder by the short rest, and so on, alternately rushing and resting until, apparently tired of her lonely life, and having grown into a broader and more settled-looking river, glides into the arms of the Avonmore, and, changing her name, loses forever her maiden identity." Further down, the Avonmore meets the Avonbeg, and the two form what is called the "meeting of the waters," about which Moore has sung one of his sweetest songs—

There is not in the wide world a valley so sweet
As that vale in whose bosom the bright waters meet.

In relation to the interesting habits of fishes and particularly those which at times betray amphibious characteristics, the *Swiss Cross* has collated some instances which, though not in the nature of discoveries, may perhaps be new to some:

Many kinds of fish build nests in the water for the protection of their eggs, but the doras make theirs upon the beach. This they do at the beginning of the rainy season.

The nest is formed very nearly like that of a bird and is built of dry leaves, which the little creatures go inland to fetch. When it is finished the eggs are deposited within, and these small fish parents cover up their embryo offspring most carefully and watch over them with great solicitude. The common eel is known to have a similar habit of moving about on the land, and will even live several days out of water. When an eel is drawn from the water and laid upon the earth it at once puffs out its cheeks in a very noticeable manner. These cheeks are formed of distensible pouches or sacs covering the gills, which the eels fill with water in order that the gill fibers may be kept moist, by which means he is enabled to remain upon the dry land for a considerable time without coming to serious harm. So when the pond where the eel makes his home begins to get dry he takes in a good supply of water and starts off to find another, moving like a snake in an apparently sinuous course, but really in a straight line, for the place of water he wishes to reach, whose direction he seems, by some curious instinct, to know.

The *Anabas scandens*, or climbing perch of India, is, perhaps, the most celebrated of any fish which voluntarily comes on shore, as he certainly is the most accomplished in terrestrial feats. He is a little fellow, very like a perch in the general form, with large scales and spiny dorsal fin, and is to be found in rivers and ponds in most parts of the East Indies. When the waters which he inhabits seem in danger of being dried up he leaves them and travels off in search of others. Though he prefers to make these journeys in the night or in the early morning while the dew lies upon the grass, he often travels by day and has even been met toiling along a hot, dusty gravel road under the full glare of an Indian midday sun. It is, however, for his climbing powers that this extraordinary fish is famed above all others that frequent the land. By the aid of his spiny gill covers and tail fin, which he pushes in the crevices in their bark, he manages to climb trees and even tall palm trees. That he does it awkwardly is true, moving somewhat after the manner of a measuring or looping caterpillar, but the fact that he can accomplish it at all is as marvellous as his object in attempting the feat is explicable. Boatmen upon the Ganges and other rivers where these climbing perch abound catch them and put them in earthen pots, keeping them alive without any water often for as many as six days, killing them when they wish to use them, and find them during the whole time as lively as when newly caught.

The common perch of our own waters, while unable to climb trees, or even to walk about the fields, is possessed of great tenacity of life after being taken from the water. When given a blanket of wet moss it can be carried in apparent comfort for long distances, and in some parts of Europe the fishermen will offer these perch for sale during the day and, if not successful in disposing of them, will replace them in the ponds from which they were taken in the morning, seemingly none the worse for their outing.

A correspondent writes as follows to the *English Fishing Gazette* regarding a recent trip in this country with some incidental fishing experiences:

Having this summer taken a trip across the "Herring

Pond," the following account of an afternoon's angling in Niagara River, just above the Falls, may not be out of place. Hearing that there was good fishing to be had about two miles above the Falls, and that several professional fishermen lived in the village on the American side, I forthwith set out in search of one. With the assistance of the man who had driven me in the morning, I managed to get hold of a fisherman who possessed a boat, rods, tackle, etc. I may here mention that as my tour in Canada and the States was a very hurried one, I had not brought my rods and tackle out with me. The boat, containing myself, the man and a boy, was a very cockle-shell affair, and when they proposed rowing me across to an island near the opposite shore, bearing in mind that we were not very far from the upper rapids (in which more than one boat has drifted and been carried over the Falls), I did not altogether relish the idea, and eventually decided to fish on the side we were on, even at the risk of catching less fish. First, it was necessary to catch some bait, the usual bait being a small fish, called in the States a "chub." Whether they are related to our chub or not, I do not know, but the ones we caught looked like small dace. Having caught a dozen or so of the so-called chub, we set to work. I soon had a good-sized bass of about 1½ lbs. The fisherman at the other end of the boat landed another simultaneously. We fished this spot for about an hour, but only took five bass, the largest about 2 lbs., or perhaps rather more. Several other boats were out, and one party who had been fishing all day had twenty or thirty fish, bass and pike. The latter are fairly plentiful about Niagara and I believe throughout the States. We moved off to several other "swims," but, whether owing to the heat of the weather or to the primitiveness of the tackle, we only caught two or three more bass, weighing about 1 lb. each. Had I had proper tackle and begun early in the day, I have no doubt that I could have had a good day's sport. Unfortunately, I had to leave Niagara Falls the next day for Toronto. There is good bass fishing in Lake Ontario, and while waiting for the lake steamer I saw two fishermen fishing from the jetty, who had each a good take of bass, some weighing 3 lbs. or over.

There is a very large kind of bass in the Niagara River (and I dare say elsewhere) called by the natives a "sheepshead." My fisherman told me of several he had caught of prodigious size. However, this might have been a Yankee yarn.*

No doubt any one going to America or Canada, intent on fishing, would go for bigger game, to British Columbia for example, where salmon fishing can be had for nothing.

Anyhow, the next time I cross the Atlantic I shall take my rods and tackle along with me.

[* Nothing Yankee about it. The fish was no doubt our fresh water sheepshead—*Haploidorotus grunniens*.—Ed.]

The New Agriculture; or, the Waters Led Captive.—This work describes the methods discovered by Hon. A. N. Cole, through which the farmer and the market gardener can increase their crops fourfold. The system provides effectually against the effects of drouth and frost, and is indorsed by all the prominent Farmers' Clubs and other agricultural authorities. Fully illustrated and handsomely bound in cloth and gold. Price \$2.00, postage free. Address THE AMERICAN ANGLER, New York.

FISH PLANTED ON LONG ISLAND.

We have received from Mr. Fred Mather, superintendent, the following communication setting forth in detail the condition of the Long Island Fish Hatchery and the work accomplished during the year:

At a late meeting of the New York Fish Commission the following petition was presented:

To the Honorable, the Game and Fish Commissioners of the State of New York:

We, the owners and occupiers of land in the town of Southampton in the County of Suffolk, State of New York, represent to your honorable body:

1st That out of the annual appropriation for the visiting and stocking waters in the State we hope to have the benefit of your experience and assistance.

2d. That we have no information that the waters of this immediate locality, which we deem of so much importance to the whole fishing community, have yet been inspected and stocked.

3d. That the waters not only comprise very fine fresh-water lakes and ponds but also salt-water bays, inlets and creeks.

4th. We respectfully submit the above to your early consideration and hereby petition you to act in the matter.

[Signed] T. GALLARD THOMAS, M. D.,
WAGER SWAYNE,
and 141 others.

The petition was referred to Mr. E. G. Blackford, the commissioner in charge of Long Island, who obtained from the superintendent of the hatchery there the following report:

COLD SPRING HARBOR N. Y., October 31, 1887.

Mr. E. G. Blackford, Commissioner of Fisheries, New York:

SIR:—In reply to your inquiry concerning the number and kinds of fish which have been distributed from this hatching station to the waters of Long Island, have drawn the following list from our books. It does not include shipments to other parts of the State. All the plantings, except those made in 1887, will be found in the reports of the Fish Commission of the previous years:

BROOK TROUT.

1883—	Mill Ponds, Cold Spring Harbor.....	8,000
	John D. Jones, South Oyster Bay.....	5,000
	John Cashow, Shoe Swamp Brook.....	10,000
	N. W. Foster, Riverhead.....	8,000
1884—	John Cashow, Shoe Swamp Brook.....	3,000
	Mill Ponds, Cold Spring Harbor.....	4,000
1885—	George Snyder, Manhasset.....	5,500
	H. Scudder, Northport.....	1,300
	H. S. Jennings, Islip.....	3,000
	W. F. Hawkins, Bellport.....	3,000
	Wood Fosdick, Bellport.....	2,000
	Mill Ponds, Cold Spring Harbor....	1,500
1886—	J. D. Hewlett, C. S. Harbor, eggs bought.	117,125
	G. H. Newton, Smithtown.....	10,000
	L. D. Huntington, Smithtown.....	5,000
	F. H. Weeks, Cold Spring Harbor.....	8,000
	H. Scudder, Northport.....	2,000
	Charles E. Whitehead, Babylon.....	5,000
	H. R. Demilt, Oyster Bay.....	5,000
	Miss Marbury, Oyster Bay.....	5,000
	W. J. Hawkins, Bellport.....	5,000
	Wood Fosdick, Bellport.....	5,000
	J. H. Perkins, Riverhead.....	5,000
	F. S. Underhill, Oyster Bay.....	5,000
	H. Shoshinsky, Breslau.....	2,000
	Edward Floyd Jones, Seaford.....	5,000
	W. L. Prime, Huntington.....	5,000
	George E. Ward, Great Neck.....	1,000
	J. W. Beekman, Oyster Bay.....	3,000

1887—W. S. Allen, Bayside.....	5,000
Pond at hatchery.....	6,000
W. Floyd Jones, Seaford.....	5,000
L. D. Huntington, Smithtown	5,000
W. A. Brown, Seaford.....	2,000
John D. Jones, Seaford.....	5,000
F. T. Underhill, Oyster Bay, eggs bought.	47,446
J. D. Hewlett, Cold Spring Harbor.....	5,000
Samuel S. Stevens, Babylon.....	2,000
John Cashow, Locust Valley.....	2,000
C. E. Quinlan, Flushing.....	7,000
S. F. Prentiss, Smithtown.....	10,000
J. W. Beekman, Oyster Bay.....	1,000

Total brook trout..... 235,361

BROWN TROUT (EUROPEAN).

1884—Jones & Hewlette, Cold Spring Harbor...	6,000
A. N. Frye, Bellmore.....	3,000
C. J. Stewart, Jamaica.....	3,000
Townsend Jones, Cold Spring Harbor	8,000
Hon. R. B. Roosevelt, Sayville.....	12,000
H. B. Hyde.....	3,000
1885—H. S. Jennings, Islip.....	3,000
George Snyder, Manhasset.....	6,000
J. R. Wood, Cold Spring Harbor.....	3,000
F. H. Weeks, ".....	2,000
Weeks & DeForest, Cold Spring Harbor	2,200
Townsend Jones, ".....	5,500
H. Scudder, Northport.....	1,700
1886—Mill Ponds, Cold Spring Harbor.....	10,000
J. W. Beekman, Oyster Bay.....	500
Kept in our ponds	4,000
1887—W. Holberton, Bellmore.....	5,000
W. A. Brown, Seaford.....	2,000
J. D. Hewlett, Cold Spring Harbor.....	2,000
Oxford Club, Patchogue.....	10,000
Kept in our ponds.....	6,000

Total brown trout..... 96,900

LAKE TROUT.

1886—Great Pond, at Riverhead.....	15,000
Pond at Breslau.....	5,000

Total lake trout..... 20,000

BLUE-BACKED TROUT.

1885—F. H. Weeks, Cold Spring Harbor.....	3,500
Weeks & DeForest, Oyster Bay.....	1,000

Total blue-backed trout..... 4,500

RAINBOW TROUT.

1884—Townsend Jones, Cold Spring Harbor....	3,000
Weeks & DeForest, ".....	4,000
Lake Ronkonkoma.....	4,500
1885—George Snyder, Manhasset.....	1,000
J. R. Wood, Cold Spring Harbor.....	1,000
F. H. Weeks, Cold Spring Harbor.....	1,000
Great Pond, at Montauk.....	4,000
P. McGovern, Brooklyn.....	500
J. Ramsbottom, Baldwins.....	500
Weeks & DeForest, Oyster Bay.....	1,000

Total rainbow trout..... 20,500

LAND-LOCKED SALMON.

1883—Great Pond, at Montauk.....	5,000
South Side Club, Oakdale.....	5,000
Hon. R. B. Roosevelt, Sayville.....	4,000
Mill Ponds at Cold Spring Harbor.....	6,000
1884—Great Pond, at Montauk.....	4,000
James Ramsbottom, Baldwins.....	1,500
Lake Ronkonkoma.....	8,000
John D. Jones, Seaford.....	6,000

Total land-locked salmon..... 39,500

1884—Nissequogue River, Smithtown.....	72,000
1887—" ".....	700,000
Cold Spring Harbor.....	200,000
Conetquot River, Brookhaven.....	500,000

Total shad..... 1,472,000

WHITEFISH (FROM GREAT LAKES).

1884—Lake Ronkonkoma.....	375,000
Great Pond, Riverhead.....	400,000
St. John's Lake, Cold Spring Harbor.....	75,000
1885—Lake Ronkonkoma.....	340,000
Great Pond, Riverhead.....	500,000
St. John's Lake.....	50,000
1887—" ".....	400,000

Total whitefish..... 2,140,000

SMELTS.

1885—Cold Spring Harbor.....	100,000
1886—" ".....	2,050,000
1887—" ".....	2,000,000

Total smelts... 4,150,000

TOMCODS (FROST FISH).

1884—Cold Spring Harbor.....	38,000
1885—" ".....	750,000
1886—" ".....	2,225,000
1887—" ".....	3,400,000

Total tomcods..... 6,413,000

LOBSTERS.

1886—Cold Spring Harbor.....	4,000
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RECAPITULATION.

Brook trout.....	235,631
Brown ".....	96,900
Lake ".....	20,000
Blue-backed trout.....	4,500
Rainbow ".....	20,500
Land-locked salmon.....	39,500
Whitefish.....	2,140,000
Shad.....	1,472,000
Smelts.....	4,150,000
Tomcods.....	6,413,000
Lobsters.....	4,000

Total fish planted on Long Island..... 14,595,761

In conclusion I would say: Our limited means have been used in needed improvements and in running expenses, and much as I would like to make an examination of the waters of the island I have not done so.

An examination of the above list will show that our work has been largely in that class of fishes which are especially food fishes; and for these we have had few applications; and therefore the smelts and tomcods have been turned into the harbor here.

All applicants have been answered that their request had been placed on file, and that when the season of distribution came they would be notified of the number allotted them.

If any persons have neglected to make application for fish or to inform themselves from the reports of the Fish Commissioners of what work has been done since the establishment of this hatching station, the fault, if any, is not mine.

FRED. MATHER, Superintendent.

The Fishes of the East Atlantic Coast.—A practical book on the salt water fishes of the Atlantic Coast, giving the scientific and popular descriptions, habits, habitat, when, where and how to catch them, of forty-two fishes that are caught with hook and line; twenty-eight engravings drawn from nature. Handsomely bound in cloth. Price \$1.50, postage free. Address THE AMERICAN ANGLER, New York.

TEXT PAPERS FOR ANGLERS.

The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

- Fly-fishing for Black Bass. March 18, 25, April 1, 8, 29, May 5, '82.
 The Carp from an Angling Standpoint. Nov. 19, '81.
 Deep Trolling in Fresh Water. Dec. 21, '81.
 Chub Fishing with the Fly. Dec. 21, '81.
 Why Fish Don't Bite. Feb. 4, '82; Aug. 15, 22, '85.
 Modern Tackle and How to Use It. April 8, 15, 22, 29, May 6, 20, '82.
 Holding Hard and Killing Quick. April 1, 29, '82.
 Catching Shad with the Fly. April 15, '82.
 Basket Straps, Shoes, etc. April 22, May 5, June 3, '82.
 Baits Used in Salt Waters. May 6, '82.
 When to Strike. May 20, June 10, July 15, '82.
 Trout of the Yosemite. May 27, '82.
 Trolling for Lake (Salmon) Trout. May 27, '82.
 The Reel, Gaff and Rod. June 3, '82.
 Trolling for Bluefish. June 17, '82.
 Tackle and Traps. Aug. 12, '82; March 15, '84.
 Light vs. Heavy Rods. Aug. 26, '82.
 Waterproofing Fish Lines. Nov. 18, '82.
 Trout in the White Mountains. Dec. 2, '82.
 What is a Pike? What is a Pickerel? Illustrated. Dec. 18, '82.
 A Sole Leather Bait Box. Illustrated. Dec. 23, '82.
 Striking and Playing a Fish. Dec. 30, '82.
 The White Perch. Illustrated. Dec. 30, '82.
 A Treatise on the Mascalonge—Where, When and How to Catch Them. Illustrated. January 6, 13, 20, 27, '83.
 A Treatise on the Black Bass—Habitat, Modes of Capture, etc. Illustrated. Feb. 3, 10, 17, 24, '83.
 The St. Lawrence Bass. Illustrated. Feb. 17, '83.
 A Treatise on the Pike—Habitat, Tackle Used, etc. Illustrated. March 8, 10, 17, 24, '83.
 The Reel—Its Place on the Rod. March 24, April 14, June 16, '83.
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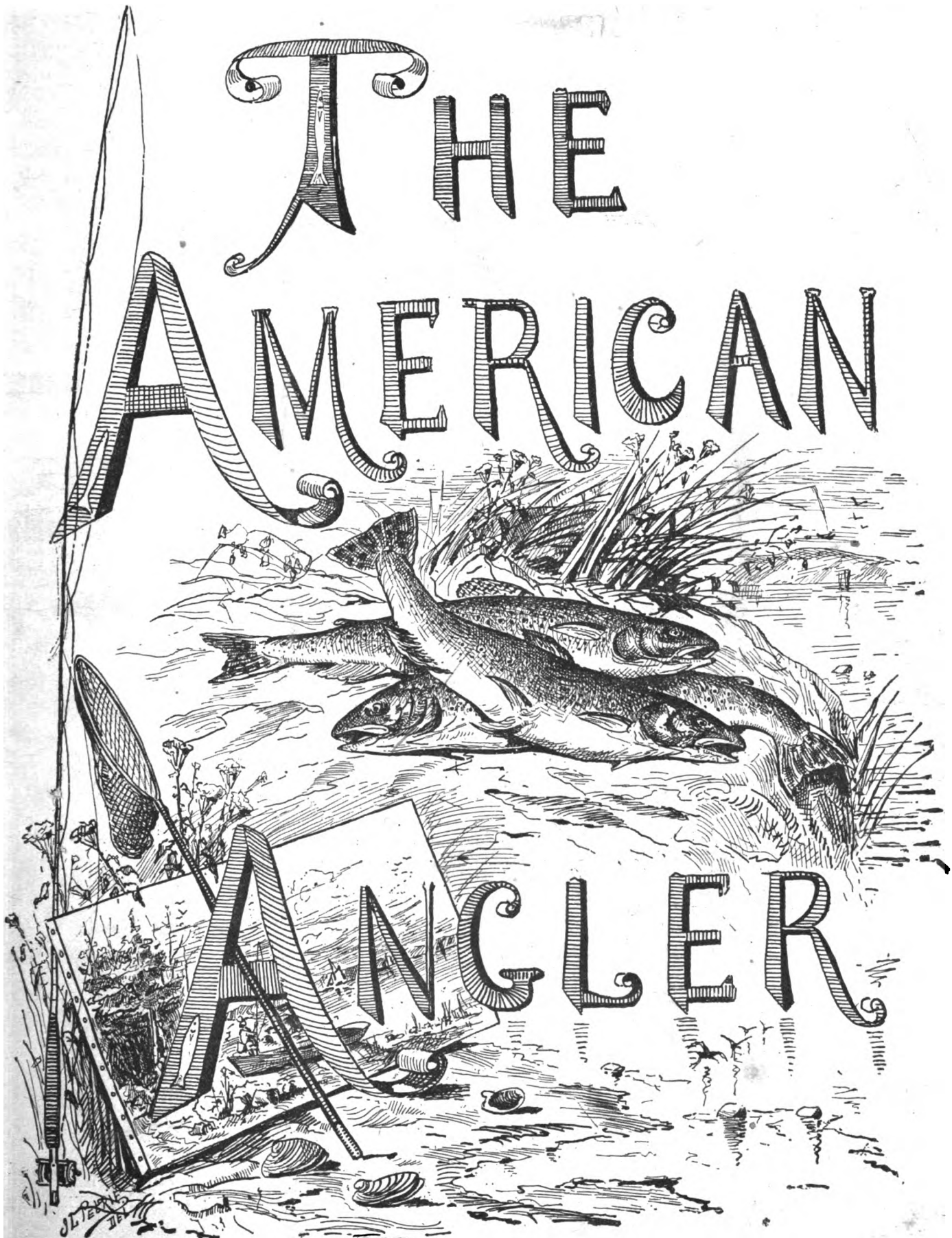
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VOLUME XII, No. 1.

JULY 2, 1887.



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The eleven volumes, handsomely bound in cloth (on Jan. 1, 1888, thirteen volumes), of THE AMERICAN ANGLER, are now ready for delivery. Price \$3.00 each. The demand for the unbound numbers of Volume I has so largely decreased our supply of them, that we are compelled to increase the price of copies to 25 cents each. New subscribers, however, who commence their subscriptions with the first issue of the paper—October 1, 1881—will be supplied at the regular rate of \$3.00 a year.

To assist our readers, who are daily ordering back numbers, in the selection of those containing special treatises of practical value to anglers, we give below a few of the dates and a partial list of subjects contained in the back volumes. They will be sent, postage paid, on receipt of ten cents for each copy:

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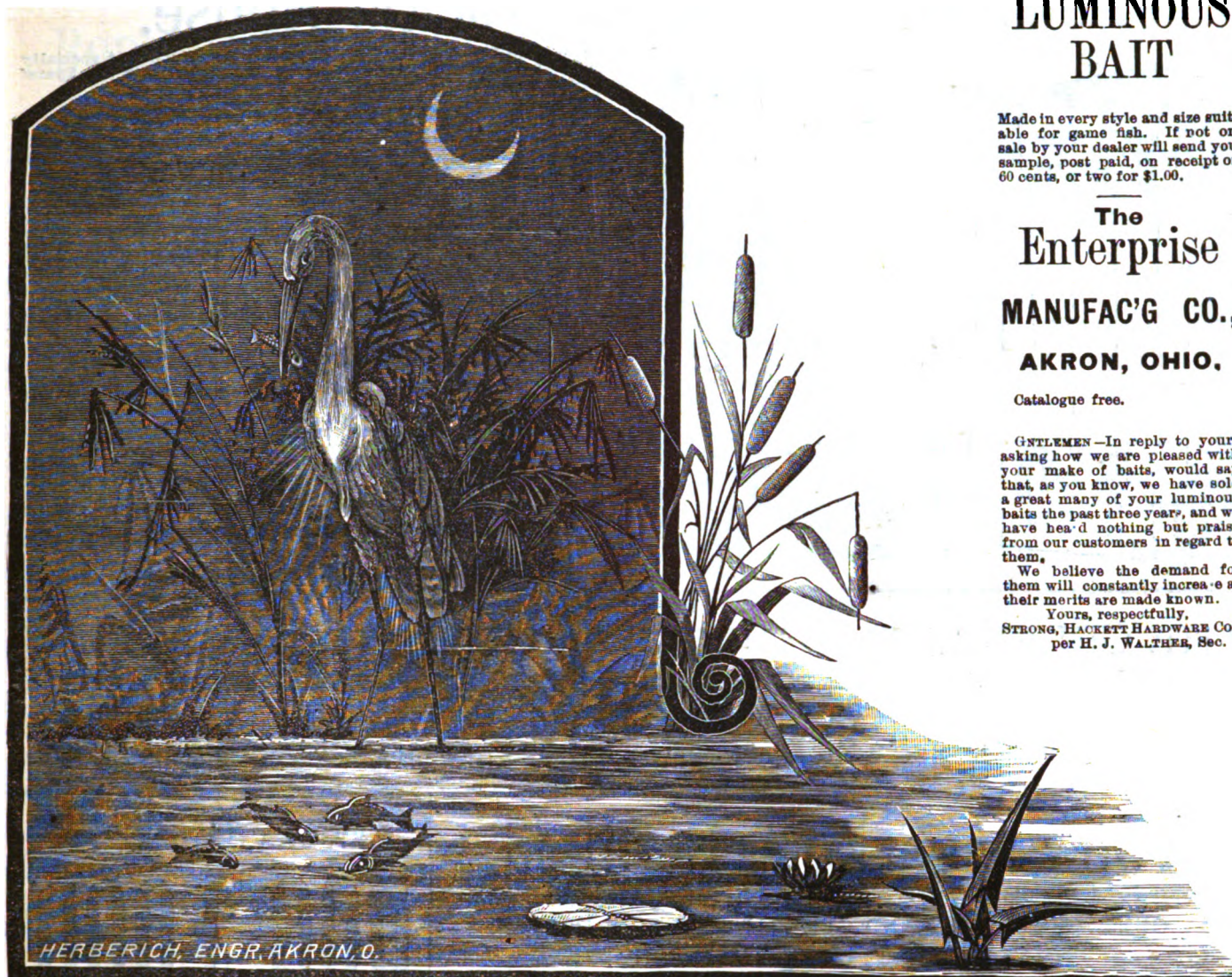
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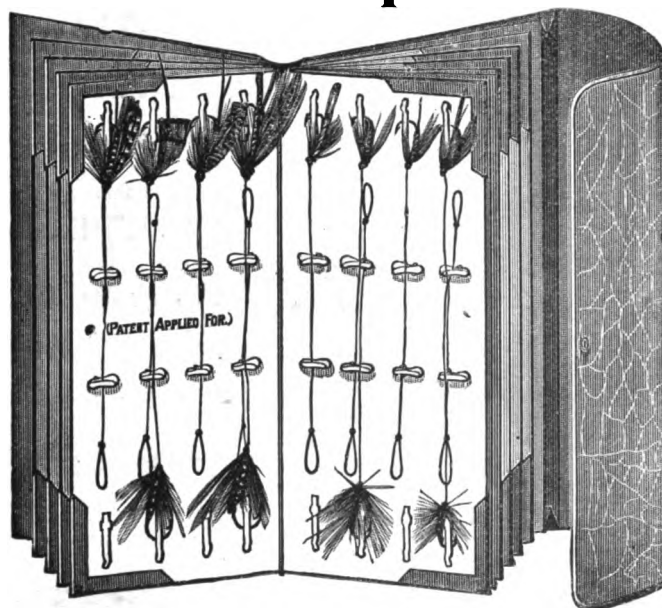
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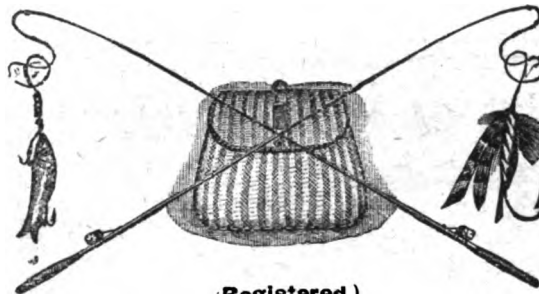
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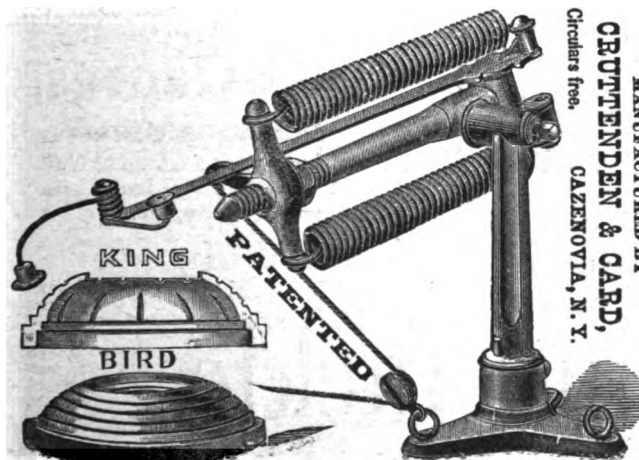
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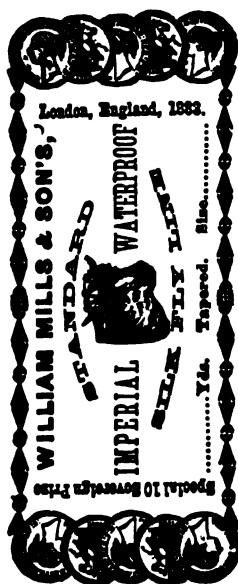
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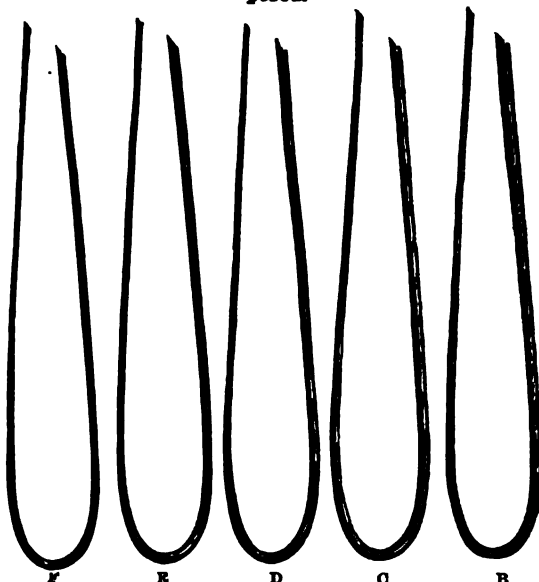
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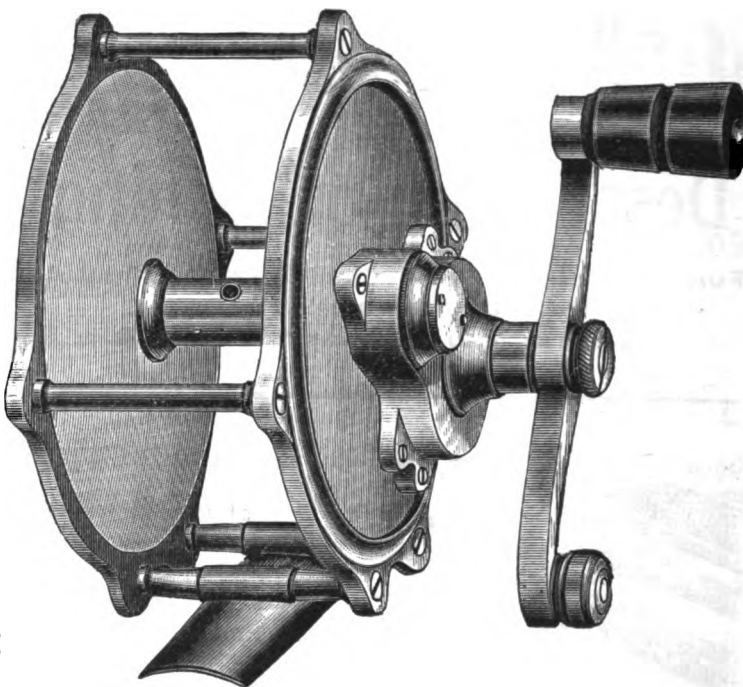
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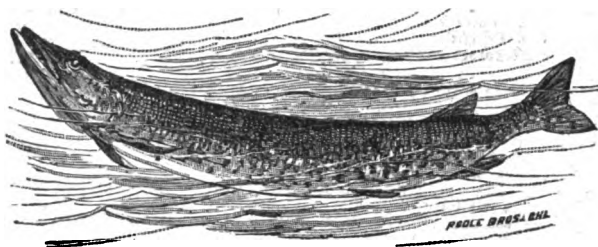
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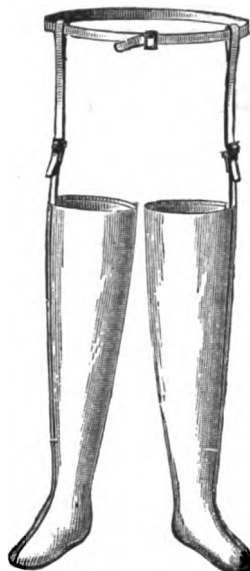
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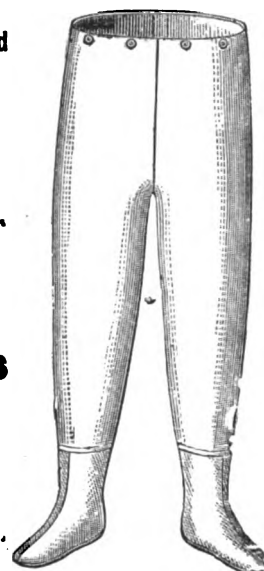
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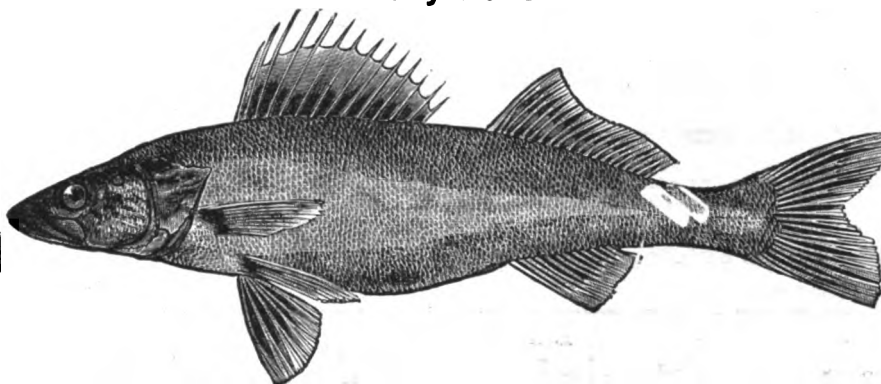
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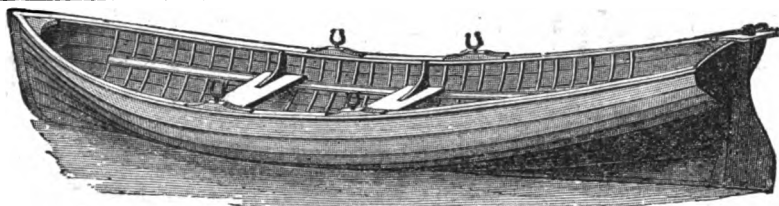
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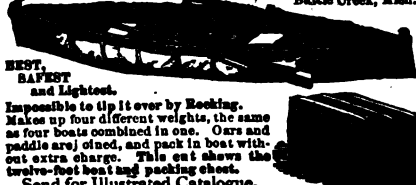
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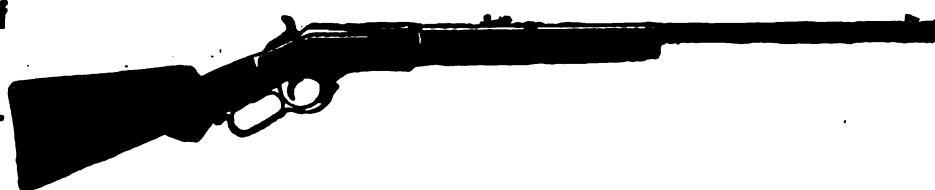
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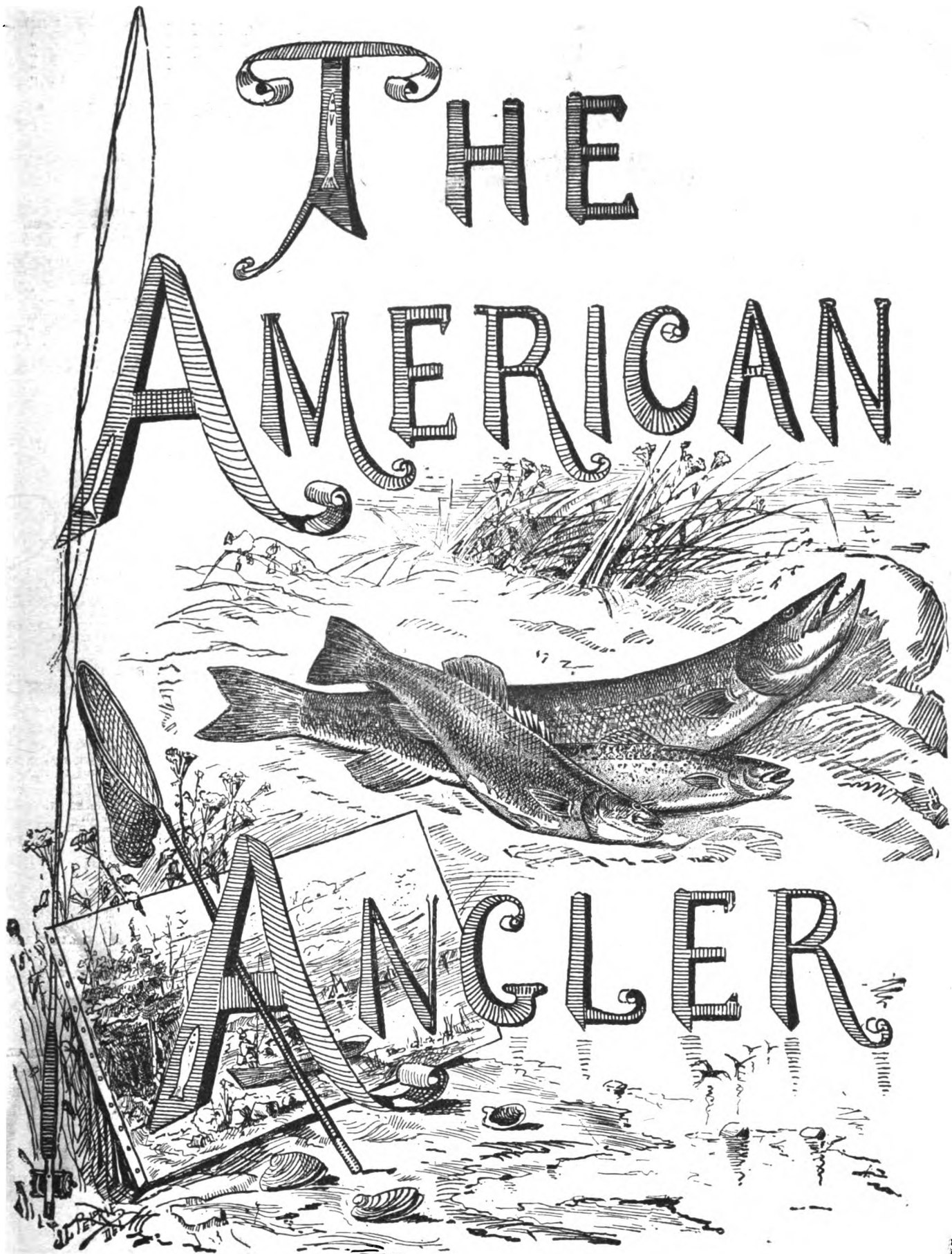
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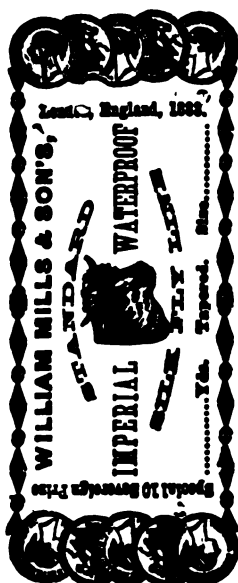
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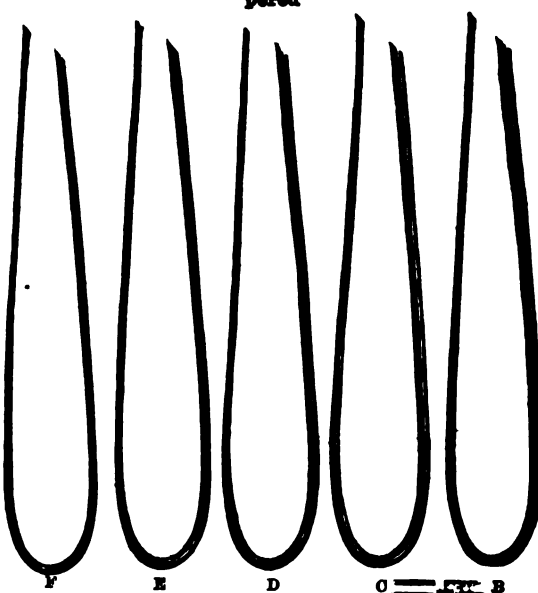
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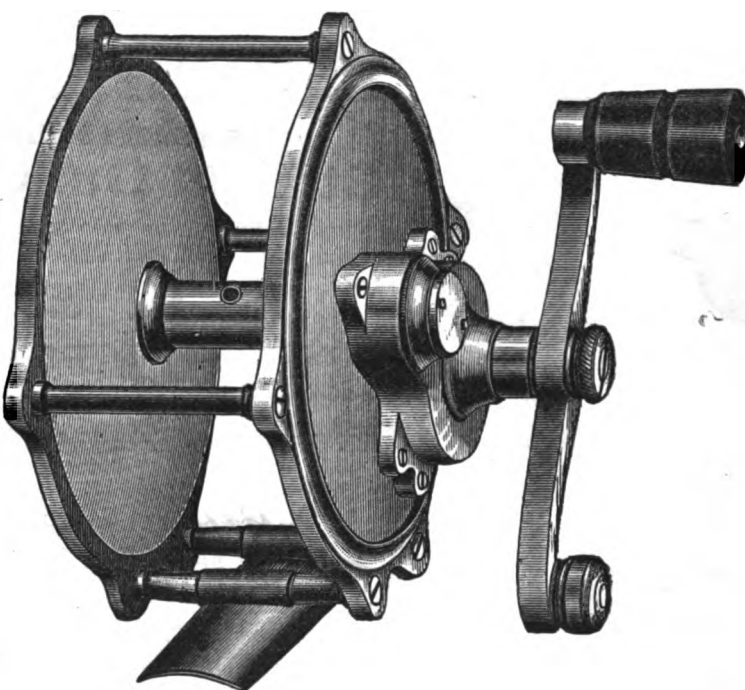
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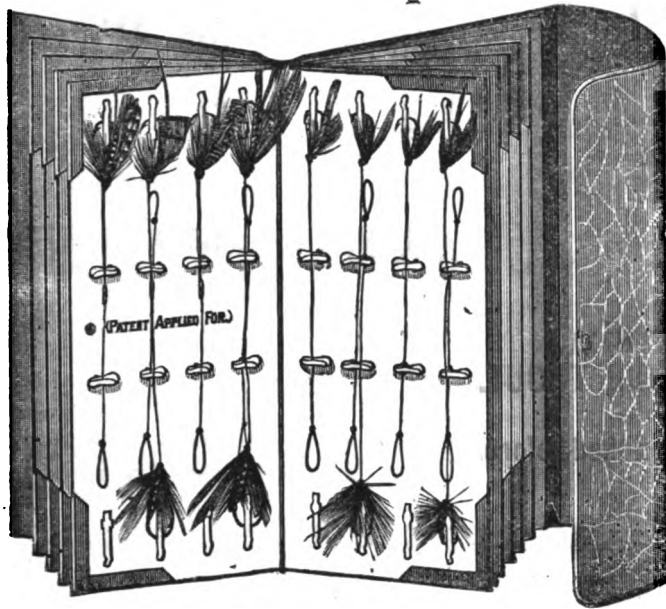
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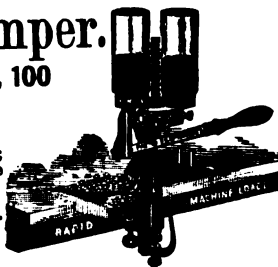
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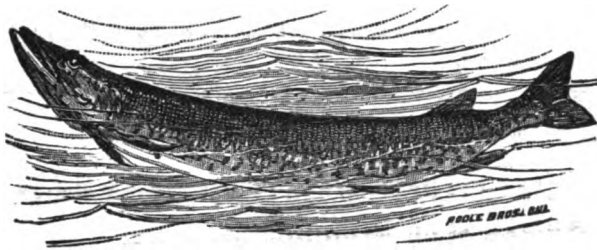


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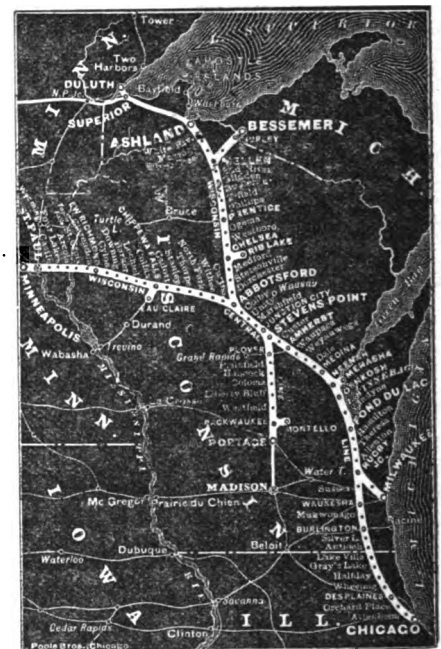
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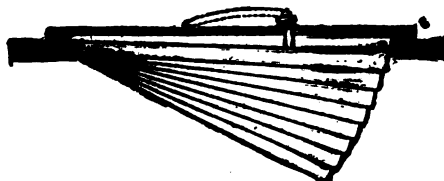
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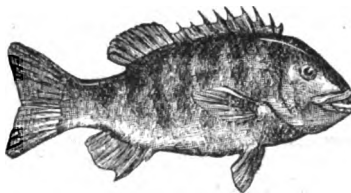
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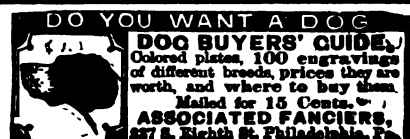
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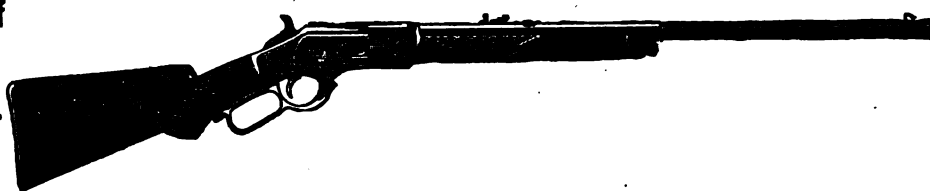


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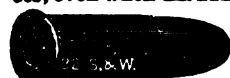
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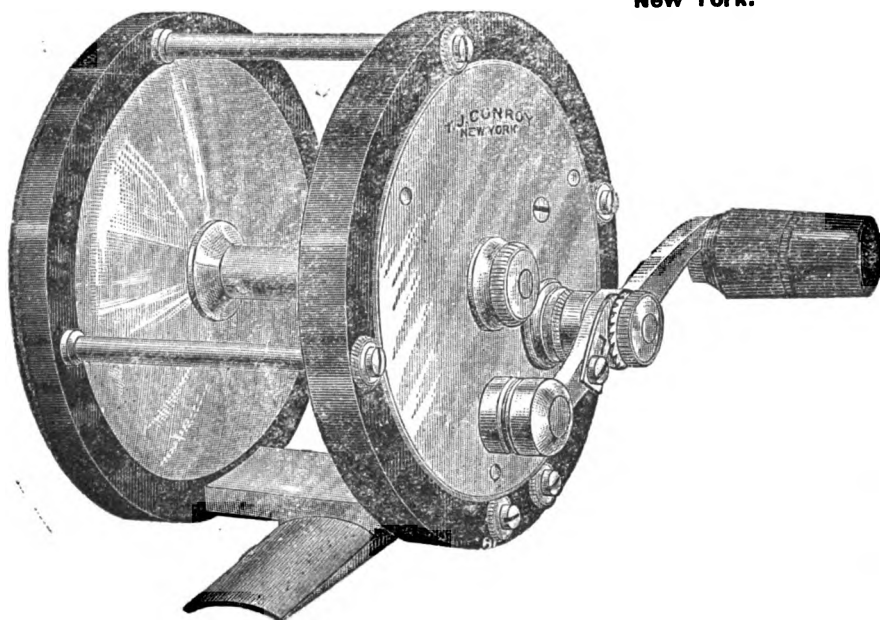
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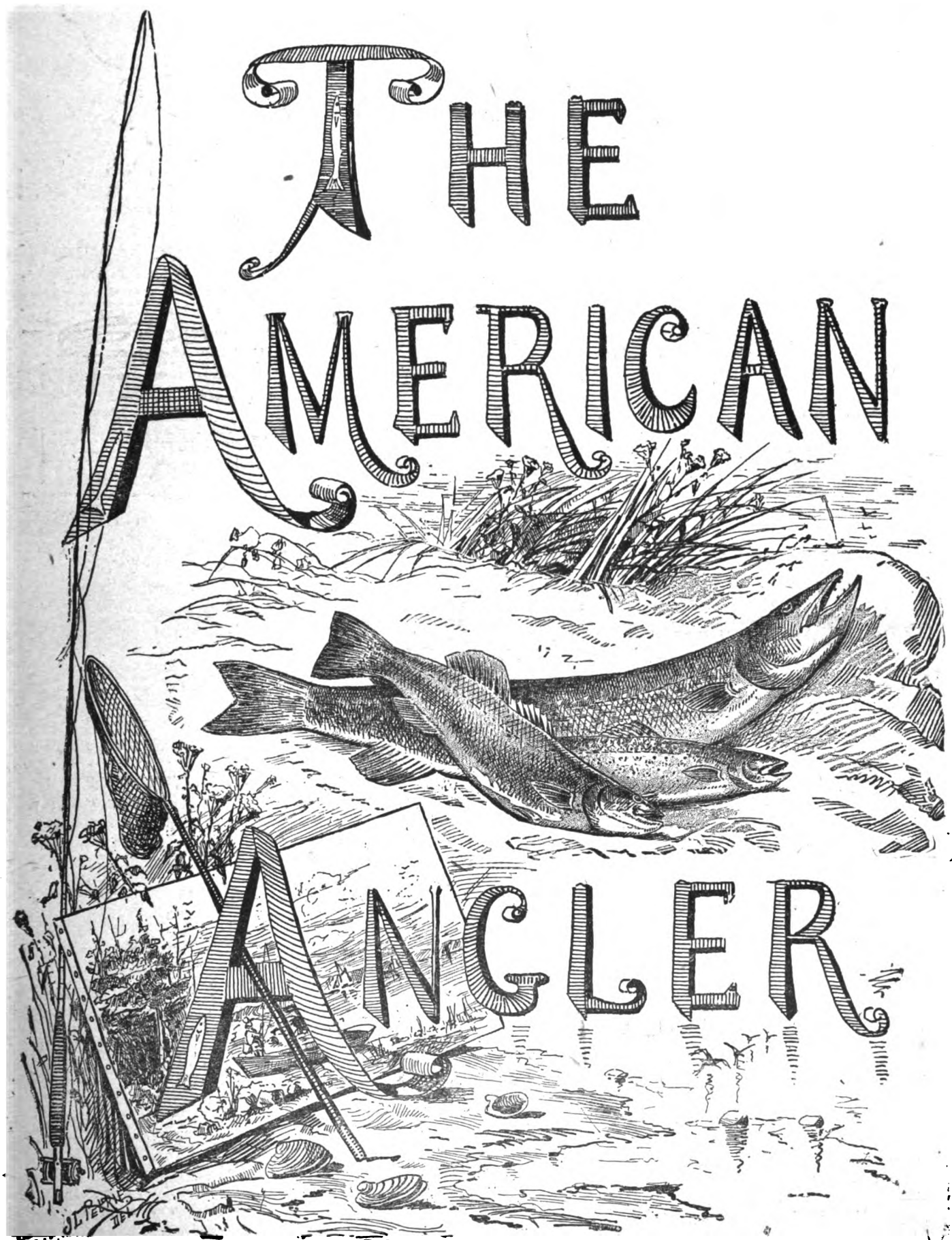
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OCTOBER 29, 1887.



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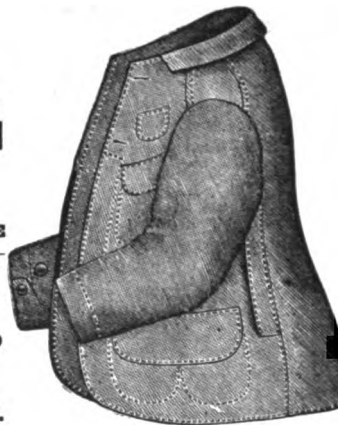
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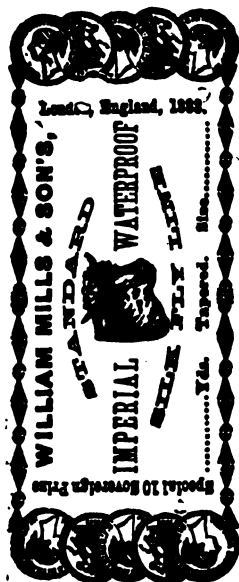
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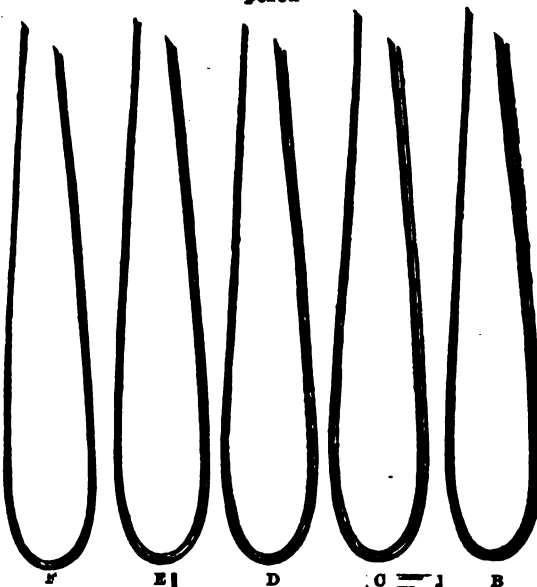
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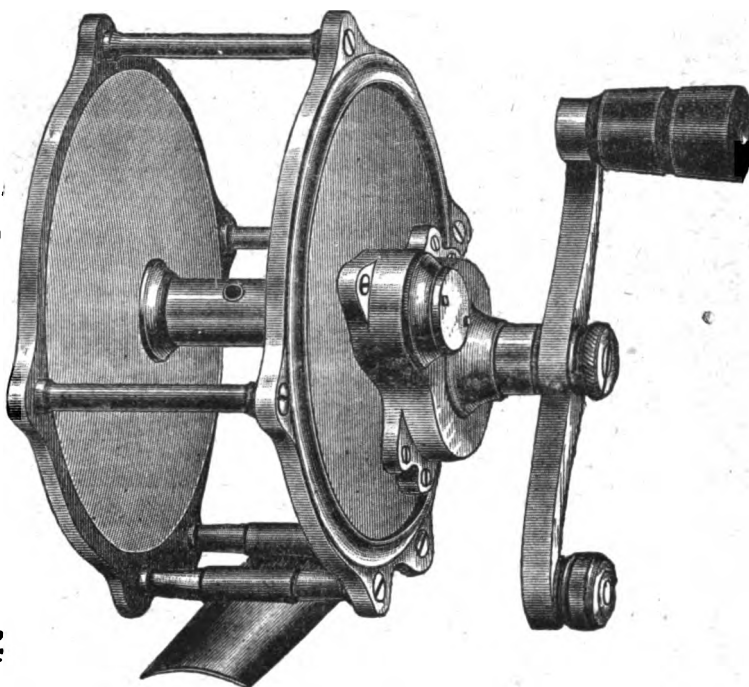
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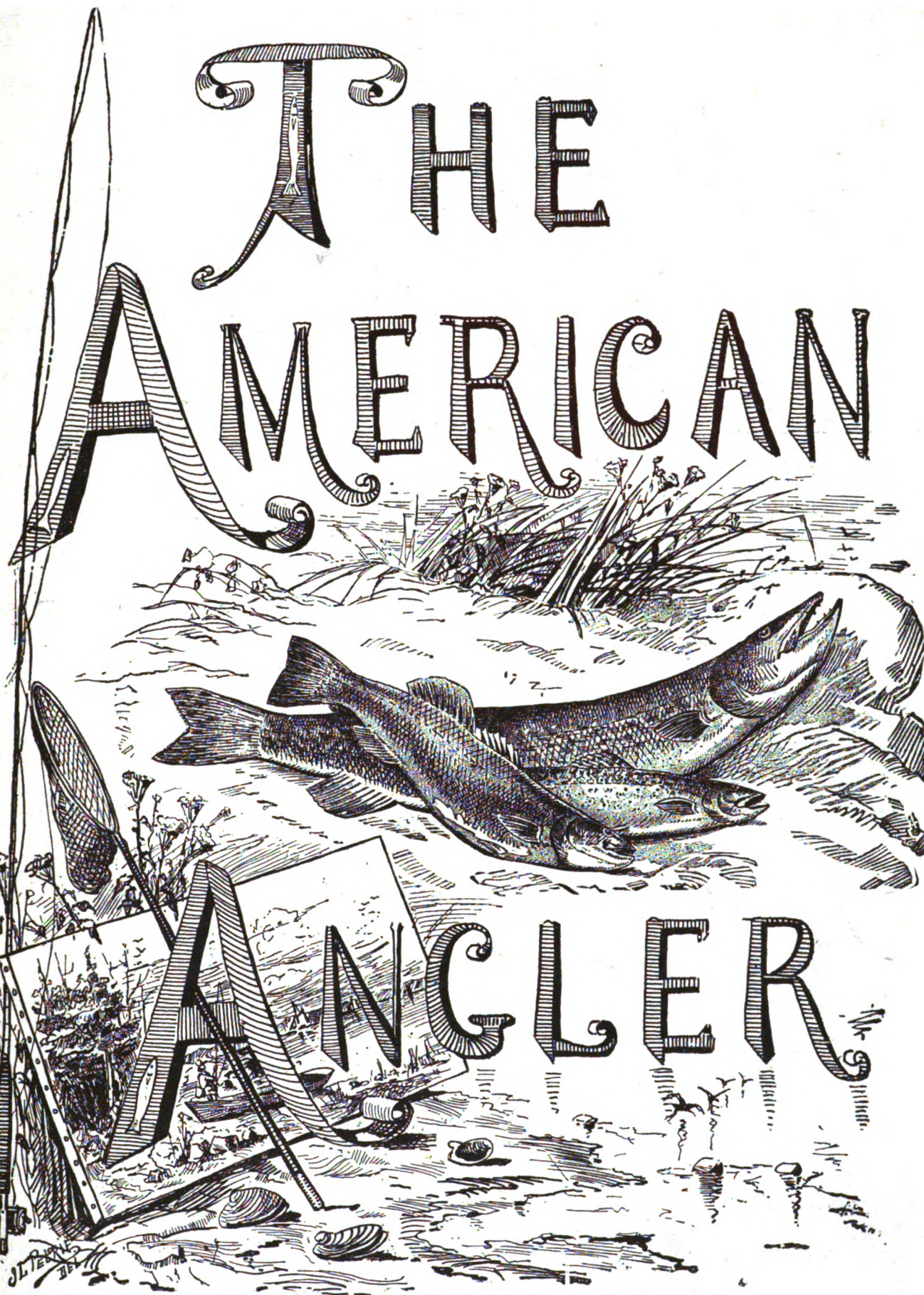
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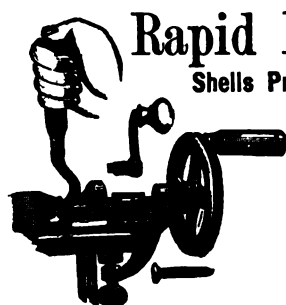
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